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OF

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WITH

ANECDOTES OF ANIMAL SAGACITY.



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QUADRUPEDS.

BIRDS.

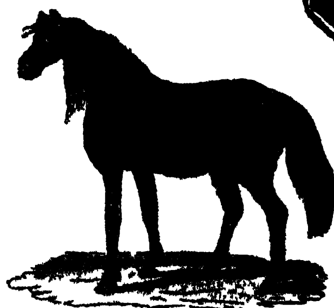
FISHES.

REPTILES.

INSECTS.

THE ENTERTAINING NATURALIST.

QUADRUPEDS.



THE HORSE.

Of all the four-footed animals, the Horse appears the most beautiful, the largeness of his form, the glossy smoothness of his skin, the ease of his motions, and the exact symmetry of his shape, have taught us to regard him as the first, and as the most perfectly formed, whilst from the advantage we derive from his activity and strength, he is certainly the most useful of domestic animals.

To have a correct idea of this noble animal, we are not to look for him in the pasture, or in the stables, to which he has been consigned by man; but in those uncultivated and distant plains where he was originally produced. In those extensive tracts, whether of Africa or America, where he is to be found in his natural state, he enjoys perfect liberty, and is no way incommoded with the inconveniences to which he is subjected in a domesticated condition.

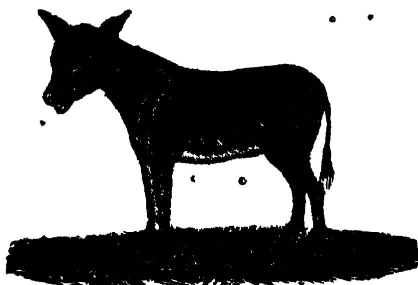
But of all the countries in the world where the horse runs wild, Arabia produces the most beautiful breed—the most generous, swift, and persevering. They are found, though not in very great numbers, in the deserts of that country, and the natives use every stratagem to take them, as the horse is of all other animals the object of their most especial care and value. In no other part of the world does he display so much gentleness, intelligence, and spirit. The natives may be said to live almost on horseback, and indeed it would be almost impossible for them to carry on their predatory expeditions, or to traverse the vast steppes of the central districts without the aid of this noble animal. Although the Arabian horses are active and beautiful, yet they are not so large as those that are bred up tame; they are of a brown colour; their mane and tail very short, and the hair black and tufted. Their swiftness is so great, that the attempt to pursue them in the usual manner of the chase, with dogs, would be entirely fruitless. Such is the rapidity of their flight, that they are instantly out of view, and the dogs themselves give up the vain pursuit. The only method, therefore, of taking them, is by traps hidden in the sand, which entangling their feet, the hunter comes up, and either kills them on the spot, or carries them home alive. If the horse be young, his flesh is considered as a great delicacy by the Arabians, and they feast upon him while any of the carcass is left, but if, from his shape or vigour,

he promises to be more serviceable in his more noble capacity, they take the usual methods of taming him, by fatigue and hunger, and he soon becomes a useful domestic animal.

If we may credit the reports of travellers, the wild horses of America, when tamed, are admirably adapted to the chase. But we must mention one particular breed, more excellent than any, and that is our own. It is not without great assiduity, and unceasing application, that the English horses are now become superior to those of any other part of the world, both for size, strength, swiftness and beauty. An ordinary racer will go at the rate of a mile in two minutes; while we have had numerous examples of much greater rapidity. No horses can equal the English thorough bred either in point of swiftness or strength; and these are the qualifications our horsemen seem chiefly to value. For this reason, when foreigners describe our horses, they allow them to be very good, but they will not grant them an easy or elegant carriage. But they do not consider that this seeming want of grace is merely the result of our manner of training them. We consult only speed in this animal's motions; whilst other nations are more anxious for parade and spirit. But in whatever degree of contempt foreigners might formerly have held our horses, they have now perceived their error, and English hunters are allowed to be the noblest and most useful animals of their kind in the world.

THE ASS.

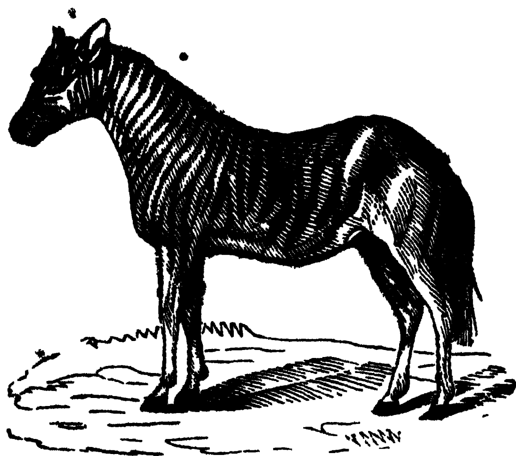
This animal, although so much abused and neglected, is nevertheless unexampled for gentleness, patience, and perseverance. Subjected as he is to excessive labour, yet he is contented with the coarsest food. In his drinking, however, he is particularly nice, refusing all but the purest water. He is much afraid of wetting



his feet, and will, even when heavily burdened, turn aside, to avoid the dirty parts of the road. He is more healthy than the horse, and, though generally degraded into the most neglected of domestic quadrupeds, there is no doubt but he might, by proper training, be rendered useful for a variety of purposes. Were but a moderate share of attention and kindness paid to this animal the possessors could not fail to be the gainers. That asses are naturally stubborn, we do not believe; but that they are rendered so, by the ill-usage they are subjected to, we will not deny. Out of many anecdotes, in our possession, the one we shall select will fully prove that they are not deficient in sagacity.

The following incident of the attachment displayed by an ass to his master, may help, in some measure, to redeem that ill-used race from a portion of the *load* of stupidity which is generally assigned to them, and which, with so many other *loads*, they bear with such exemplary patience:—Thomas Brown, residing near Hawick, travelled the country as a higgler, having an ass, the partner of his trade as well as his toil. From suffering under a paralytic affection, poor Thomas was in the habit of assisting himself on the road by keeping hold of the crupper of the saddle, or more frequently

the *tail* of the ass. During a severe winter, some years ago, whilst on one of his journeys, near Rule-water, "the old man and his ass" were suddenly plunged into a wreath of snow. There they lay long, far from help, and ready to perish. At length the ass, after a severe struggle, got out; but finding his unfortunate master absent, he eyed the wreath for some time with a wistful look, and, at last, forced his way through it, to where his master still lay, when, placing his body in such a position as to afford him a firm grasp of his tail, the honest higgler was thereby enabled to take his accustomed hold, and was actually dragged out by the faithful beast, to a place of safety.

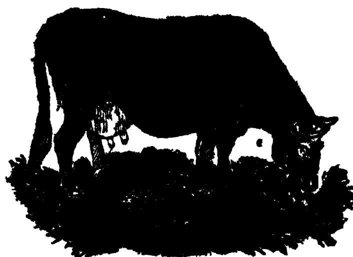


THE ZEBRA

Is, perhaps, the handsomest and most elegantly marked of all animals. In this quadruped are combined the shape and graces of the horse, with the swiftness of the stag.

The skin of the Zebra is smooth, and beautifully

marked, being striped all over, in alternate rows of black and white, so that, at a distance, he appears as though some one had surrounded him with ribbons of buff or white, and jet black. He is a native of Southern Africa; chiefly of the Cape of Good Hope. It is too shy to be caught in traps, and, therefore, seldom taken alive. Were the zebra accustomed to our climate, there is little doubt but he might be domesticated.



THE COW.

Of the ruminating animals, those of the Cow kind are the most important. The climate and pastures of Great Britain are excellently adapted to the cow, and the verdure and fertility of our plains are perfectly suited to its mode of feeding; for, wanting the upper fore-teeth, it loves to graze on a high, rich pasture.—This animal regards but little the quality of its food, but indiscriminately and hastily devours the proper quantity. For this reason, the cow thrives admirably on our pastures, where the grass is rather flourishing than nutritious; and in no part of Europe does it grow larger, yield more milk, or more readily fatten, than with us. But though we have the best breed of horned cattle of any in Europe, it was not without the same assiduity that we arrived at excellence in these,

as in our horses. The breed of cows has been greatly improved by a foreign mixture; for such as are purely British are far inferior in size to those in many parts of the Continent. The Lincolnshire breed derive their size from the Holstein; and the large cows without horns, that are bred in some parts of England, came originally from Poland.

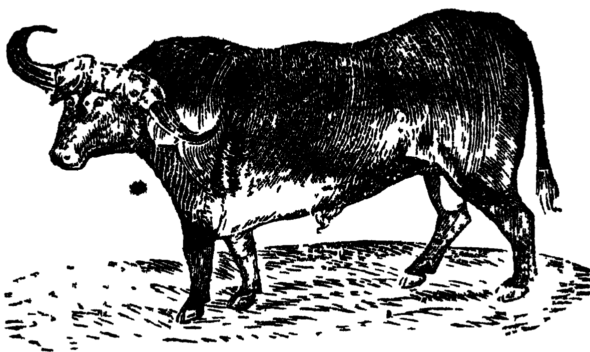


THE BULL

Is a very fierce creature, and, when enraged, goes about. tossing up his tail, and roaring most fearfully. When attacked by men or dogs, he tears up the ground with his feet, and then gallops after his assailants, to endeavour to toss them with his horns; and very often he pursues, in this manner, any one he sees, particularly if they appear frightened. The best way for any one to act, who may be attacked by a bull, is to stand still, and open an umbrella, or flap a shawl, or something of that kind, in the bull's face; as, with all his fierceness, he is a great coward, and only pursues those who fly from him.

The ox, or bullock, which is a kind of bull, is used

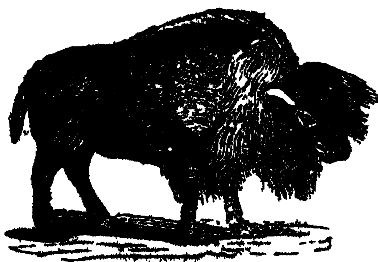
in some parts of the country for drawing carts and waggons, and ploughing; and its flesh is what we call beef. The skin is tanned, and made into leather.



THE BUFFALO

Is of a more stubborn nature, and less tractable than the ox. He differs externally from the ox, chiefly in the colour of his hide; and this is easily perceived under the hair, with which he is but sparingly furnished; his body is likewise thicker and shorter than that of the ox; his horns not so round, black, and partly compressed, with a tuft of frizzled hair over the forehead; his hide is likewise thicker and tougher; his flesh is black and hard. The milk of the female is not so good as that of the cow. The hide of the buffalo is of more value than the rest of the beast, whose tongue is the only part fit to be eaten.

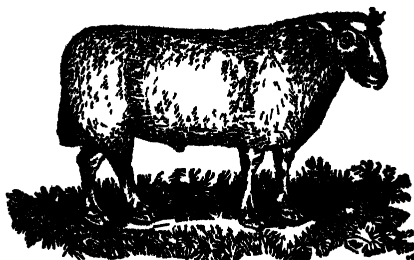
There are a great number of wild buffaloes in Africa and India, where they go in droves, and commit great damage in cultivated lands; but they never attack the human species, unless they are wounded, when they are very dangerous. They are greatly terrified at the sight of fire, and dislike a red colour.



THE BISON,

ANOTHER variety of the Ox kind, is distinguished from the rest, by having a large protuberance between its shoulders. These animals are of various sizes; some being very large, and others the reverse. In its fore parts, this animal has much the look of the lion, with a low, shaggy mane, and a beard under his chin. His head is small; his eyes fierce; the forehead is large, and the horns so bulky, and so far asunder, that three men may often sit between them. There are also some that are without horns.

Captains Lewis and Clarke, and Dr. James, bear frequent testimony to the numbers in which these animals assemble on the banks of the Missouri.—"Such was their multitude," say the first-named travellers, "that, although the river, including an island over which they passed, was a mile in breadth, the herd stretched, as thick as they could swim, from one side to the other." Dr. James tells us that, "in the middle of the day, thousands of them were seen coming in, from every quarter, to the stagnant pools;" their paths being "as frequent, and almost as conspicuous, as the roads in the most populous parts of the United States."



THE SHEEP.

Those animals that seek the protection of man, in a few generations, become indolent and helpless. When they lose the habits of self-defence, they appear to divest themselves of the instincts of nature. With its liberty, the Sheep seems to have lost its swiftness and cunning; and what in the ass may be called patience, in the sheep is stupidity.

Nature, however, is not to be blamed for the formation of an animal so completely unprovided against its enemies, and so unfit for defence. The mouttlon, which is the sheep in its wild state, is a creature both bold and fleet, capable of escaping the greater animals by its swiftness, or of opposing the smaller kinds with its natural means of defence. It is by human art alone that the sheep is become the defenceless animal that it is; and every race of quadrupeds might easily be corrupted by the same allurements by which the sheep has been depressed.

It does not appear, from early writers, that the sheep was bred in Britain; and it was not until several ages after this animal was introduced, that the woollen manufacture was carried on in this country. That valuable branch of industry was for a considerable time confined to foreigners; and we were obliged to

import the cloth manufactured from our own materials. The case is widely altered now.

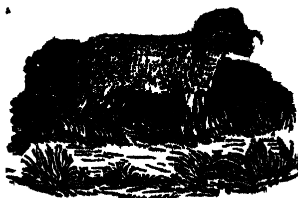
No country produces such sheep as England; and the weight of the Spanish fleece is no way comparable to one of Lincolnshire or Warwickshire.—The sheep brings forth one or two at a time, and sometimes three or four; they bear their young five months, and, by being housed, they bring forth at any season.

The woolly sheep, as it is seen among us, is found only in Europe, and some of the temperate provinces of Asia: when transported into warmer or colder climates, it undergoes changes, in the nature of its covering, its fertility, and its flesh. The Iceland sheep resembles our breed in the form of the body, and the tail; but differs, in a very extraordinary manner, in the number of its horns, being found to have four, and sometimes even eight, growing from different parts of the forehead.

The broad-tailed sheep, which is an inhabitant of hot climates, is remarkable for its heavy tail which is often found to weigh from twenty to thirty pounds; it grows a foot broad, and requires to be supported by a small kind of board, which goes upon wheels.

The Guinea sheep differ greatly in form from the rest, and might be considered as animals of another kind, were they not known to breed with other sheep. They are of a large size, with a rough hairy skin, short horns, and ears hanging down, with a kind of dewlap under the chin. These, of all the domestic kinds, seem to approach the nearest to the natural state.

None of these varieties are sufficiently independent to live in a state of nature. It is chiefly in the deserts of Tartary that the mouttlon, or wild sheep, is to be found; it bears all the marks of being the primitive race, and can breed with the domestic animal.



THE RAM

Is the male of the sheep, and is so fierce and strong that he will attack a dog, and generally come off victorious.

Fearless of danger, he has even been known to attack a bull; and his head being harder than that of any other animal, he is usually conqueror: for this reason, when the bull depresses his forehead, the ram butts him with his horns between the eyes, which generally stuns the bull, and brings him to the ground.



THE GOAT.

This animal seems, in every respect, more fitted for a life of savage liberty than the sheep; it is more lively, and possessed of more swiftness and courage. It chiefly delights in climbing precipices, and going to the very edge of danger, its hoof is hollow underneath, with sharp edges, so that it walks as securely

on the ridge of a house as on level ground. It is a hardy animal, and easily sustained; its favourite food is the tops of boughs, or the tender bark of young trees; it sleeps exposed to the sun, and seems to enjoy its greatest warmth, but is not terrified by the storm, or incommoded by the rain. The goat produces but two or three at a time, and, like the sheep, goes five months with young, and, in some places, bears twice a year. Its milk is sweet and very nourishing. In very hot climates, where the mutton is flabby and lean, the flesh of the goat seems rather to improve, and in some places the goat is cultivated in preference to the sheep. We, therefore, find the goat in every part of the world; in cold situations, where the pasture is course, it finds a scanty subsistence.



THE IBEX AND CHAMOIS.

The Ibex and the Chamois are the male and the female stock of the goat species, and are only found upon the most craggy places of the highest mountains. Although these animals dislike heat, yet they have also an aversion to excessive cold. In the summer they choose the north of the mountains, in winter they descend into the valleys; they cannot support themselves on their legs upon the ice when it is smooth, but if there be the least inequalities on its surface, they bound along with incredible speed.

The Chamois is a wild animal, but easily tamed

and very docile. It is very lively, and active beyond expression. Its hair is short; in spring it is of an ash colour, and in winter of a blackish brown. The flesh of the chamois is good to eat. It feeds upon the best herbage, and chooses the most delicate parts of plants. Its head is crowned with two horns of a beautiful black, and rising from the forehead almost between the eyes. The hides of these animals are very strong and supple. The hunting of the chamois is very laborious and difficult.



THE GAZELLE, OR ANTELOPE.

There have been no fewer than thirteen species of these animals noted. The common gazelle is found in Barbary and in the northern parts of Africa. It

greatly resembles the roebuck in the proportions of the body, its swiftness and the brightness and the beauty of its eyes. Accurately considered, however, the gazelle seems to be of a middle nature between the roebuck and the goat, but when we consider the roebuck is an animal which is to be found in both hemispheres, and that the goat, on the contrary, as well as the gazelle, do not exist in the New World, we shall easily perceive that these two species, the goat and the gazelle, are more nearly related to each other than to the roebuck.



THE SPRING-BOK

Is one of the most beautiful antelopes of Southern Africa, and also one of the most numerous. It derives its name from the extraordinary springs it takes in frolic or when pursued, clearing a height of eight feet at a bound.



THE ROEBUCK.

THE Roebuck has strong, upright, rugged, and trifurcated horns, from six to eight inches long. Its length is between three and four feet; its height, from two to three feet. Though he is inferior to the stag in dignity, strength, and stature, he is endowed with more gracefulness, vivacity, and courage. He is superior in gaiety, neatness, and sprightliness. His figure is more elegant and handsome. His eyes are more brilliant and animated. His limbs are more nimble, his movements quicker, and he bounds, seemingly without effort, with equal vigour and agility. His coat or hair, is always clean, smooth, and glossy. He never wallows in the mire like the stag. He delights in dry and elevated situations, where the air is purest. He is likewise more crafty, conceals himself with greater address, is more difficult to trace, and derives superior resources from instinct.

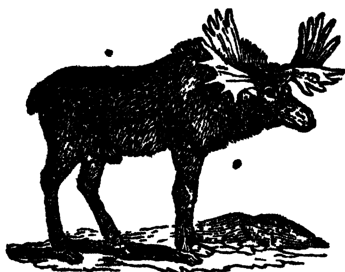
The only parts of Great Britain where he is found are the Highlands of Scotland.



THE FALLOW DEER

Is a beautifully spotted animal, and is that kind of deer which is usually kept in parks. Its horns are broad and flat. The male is called a buck, and the female a doe. The buck casts his horns every spring, and they increase in size yearly until the fifth year, when they have arrived at their full growth. The venison of the Fallow Deer is far superior to that of the red deer. The buck-skin and doe-skin are well known, as furnishing a peculiarly soft and warm kind of leather. The height of the buck is about three feet, and measures about five feet in length





THE ELK.

The Elk is the largest of the deer kind, being upwards of six feet in height at the shoulders. The head of this immense animal measures usually, from the nose to the line between the ears, two feet two inches. The horns are shed annually, and have been known to weigh about sixty pounds. The legs are long, and body round, with a short neck. The hair of the male is black at the tips, ash-coloured in the middle, and perfectly white at the roots. The female is of a sandy brown colour.

The movements of the elk are rather heavy, from the great height of its shoulder. It does not gallop, like others of the deer kind, but goes along at a shuffling kind of amble; and its hoofs, striking against each other, make a strange crackling sound, which is heard at a considerable distance. Its speed, however, is great.

During the winter, the elk lives chiefly in wooded hills; in summer, it frequents the swampy sides of rivers and lakes, often going deep into the water to escape flies and gnats. It is hunted on account of its flesh, which is of superior flavour. It is a native of Europe, Asia, and America.

THE REIN-DEER.

AMONG those of the deer kind there is no animal, the history of which is more interesting than that of the Rein-deer. It is found only in cold situations, from which, when it is removed, it declines, and shortly dies. From it alone the inhabitants of Lapland and Greenland supply most of their wants: it answers the purpose of a horse, to convey them and their scanty furniture from one place to another; it supplies the place of a cow with giving them milk, and it furnishes them with clothing. Thus Providence does not leave these poor mortals entirely destitute, but gives them a faithful domestic, more patient and serviceable than almost any other animal in nature. The rein-deer is of a lower, but stronger figure, than the stag. Its legs are shorter and thicker, and its hoofs much broader than that animal; its hair is much thicker and warmer, its horns are much larger in proportion, and branch forward over its eyes.

When it proceeds on a journey, it lays its great horns on its back, but still there are always two branches which overhang its face. The species is particularly distinguished by the females having horns as well as the male; they are, however, smaller, and less branched than those of the male. In Lapland the rein-deer is converted to the utmost advantage; and some herdsmen of that country are known to possess above a thousand in a single herd. In the morning, as soon as they drive the deer to the pasture, their greatest care is to keep them from the tops of the mountains, where there is no food, but where they go merely to be at ease from the countless multitudes of gnats and gad-flies, that are for ever annoying them. The men with their dogs confine them in the places where there is food in the greatest plenty, guarding them the whole day with the greatest care, and driving them home at the proper season for milking.

The female brings forth in the middle of May, and gives milk till about the middle of October. Every morning and evening, during summer, the herdsman returns with his deer to be milked, where the women previously kindled up a smoky fire, in order to keep away the insects while the animals are milked.

In the winter season, the rein-deer, with instincts adopted to the soil, search out their food though covered with the deepest snows. It sometimes, however, happens, though but rarely, that the winter commences with rain, and a frost ensuing, covers the whole country with a strong crust of ice; then indeed both the Laplander and his rein-deer are undone, they have no provisions laid up in case of accident, and the only resource is to cut down the large pine trees that are covered with moss, which furnishes but a scanty supply; so that the greatest part of the herd is then seen to perish, without any hope of assistance.

The rein-deer in Lapland are of two kinds, the wild and tame; the wild are the largest and most mischievous. They are better fitted for drawing the sledge, to which they are accustomed at an early age,



and are yoked by a strap, which goes round the neck, and comes down between the legs. The sledge is extremely light, and covered at the bottom with the skin of a young deer, the hair being turned outwards to slide on the snow. The person who sits on the

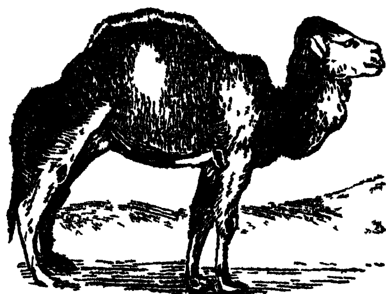
sledge guides the animal with a cord fastened round the horns, and encourages it to proceed with his voice.

Some of the wild kind will often attack the drivers, who have then no other resource than to protect themselves by their sledge, from the rage of the animal. But no creature can be more active, patient, and willing than the tame rein-deer, which, in general, can travel about thirty or forty miles without halting, and this without any great or dangerous efforts. Such is the only means of travelling in that country, which can only be performed in winter, when the snow is glazed over with ice.

The rein-deer go with young about eight months, and generally bring forth two at a time. The fondness of the dam for her young is very remarkable; it often happens that, when they are separated from her, she will return from the pasture, keep calling round the cottage, and will not desist until, dead or alive, they are brought and laid at her feet.

There is scarcely any part of this animal that is not converted to its peculiar uses. As soon as it begins to grow old, it is killed, and the flesh dried in the air; it is also sometimes hardened with smoke, and laid up for travelling provision, when the natives change their abode from one part of the country to another. The milk is warmed and thickened with rennet, and then the curd is made into cheeses, which are well tasted.

The skin is even a more valuable part of the animal than any of its congeners; from it the Laplanders make their shoes, their clothes, and their beds. In short no part of this animal is thrown away as useless. the horns are sold to be converted into glue, the sinews are divided, so as to make the strongest sewing thread, not unlike cat-gut. The tongues, which are considered as a great delicacy, are dried and sold in other provinces. Thus the Laplander finds all his necessities amply supplied from this single animal, and he who has a large herd of rein-deer has no idea of higher luxury.



THE CAMEL AND DROMEDARY.

These two names do not include two different species, but only indicate two distinct breeds in the camel species. The principal character by which they differ consists, in the camel having two protuberances, and the dromedary only one. The latter is much less, and not so strong as the camel.

The Arabs consider the camel as their best friend, without whose aid they could neither subsist, trade, nor travel. Its milk is their common nourishment; they likewise eat its flesh, especially that of the young ones. The hair is used to make stuffs for clothing. With them they can, in a single day, travel fifty miles over the desert. The camel abstains from drinking for a long time. Besides the four stomachs common to all ruminating animals, the camel is possessed of a fifth bag, which serves him as a reservoir to retain the water. This fifth stomach contains a great quantity of liquor, where it remains without corruption. When the animal is pressed with thirst, he causes a part of this water to re-ascend into the stomach, and even to the throat, by a simple contraction of the muscles, and by this means macerates his food for rumination.

Large and strong camels generally carry ten or

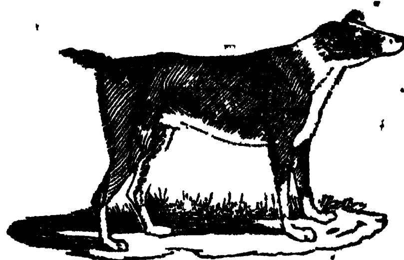
twelve hundred weight; but when a heavier load than usual is put upon him, he refuses to move till he is lightened of some of his burden. When travelling they are disburthened every evening, and are suffered to feed at liberty.



THE LLAMA, OR AMERICAN CAMEL.

THIS animal is a native of South America, where it is used as a beast of burden. They walk with their head erect, and with a pace so uniform, that even blows are incapable of making them move more quickly. They will not carry their loads during the night; but are obliged to be unloaded, in order to allow them to pasture. They eat little, and are never furnished with drink.

Like the sheep they have cloven feet, and a spur above, which renders them sure-footed among the rocks. Their wool has a strong odour: it is long, spotted with white, grey, and red, and equally beautiful, though of an inferior quality, with that of the pacos.



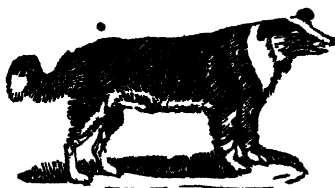
THE DOG.

Of all domesticated animals, the Dog has every reason to claim the preference; being the most intelligent of all known quadrupeds, and the acknowledged friend of man. The dog, independent of the beauty of his form, his vivacity, strength, and swiftness, is possessed of all those qualifications that can conciliate the affections of his master.

A natural share of courage, an angry and ferocious disposition, renders the dog, in its savage state, a formidable enemy to all other animals; but these readily give way to very different qualities in the domestic dog, whose only ambition seems the desire to please; he is seen to come crouching along to lay his strength, his courage, and all his talents at the feet of his master; he waits his orders, to which he pays implicit obedience; he consults his looks, and a single glance is sufficient to put him in motion; he is one of the most faithful domestics, constant in his affections, and much more mindful of benefits than of injuries, he is not driven off by unkindness; he still continues humble, submissive, and imploring; he licks the hand that strikes him, and, at last, disarms resentment by persevering submission.

The dog is highly susceptible of the impressions of

education; some have been taught to compose words with letters placed before them, to perform calculations with numbers, and, in many instances, they discover proofs of a highly imitative, if not intelligent faculty.



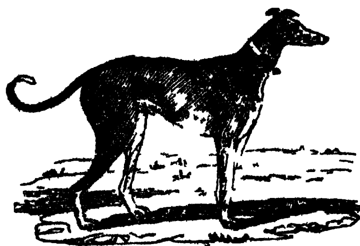
THE SHEPHERD DOG

Is equally qualified to defend his master's property, and to protect and guide his flocks. In Scotland, numerous flocks of sheep are fed upon the mountains, and a single dog, of the *colley* breed, is found more useful in keeping them together, than the shepherd could receive from a dozen boys. It is surprising to observe the expedition with which this dog obeys his master's orders; he watches his eye, and flies to execute his bidding at a word, whether it is to prevent the flock from straying to a distance, to drive them with regularity to their pasture, or to conduct them to the fold; and though many others are feeding on the same mountain, he selects those only under his peculiar care, often to the number of several hundreds, and prevents any stranger from mixing with them. A shepherd will sometimes point out to his dog one of the flock straggling at a great distance, and he never fails to bring in the runaway. These animals acquire this command over the sheep merely by their voice, for they are too well trained to injure their fleecy charge with their teeth.



THE TERRIER.

Among the class of sporting dogs—the Terrier has very short legs, which enables him to creep under the grass, and dart through brakes and bushes, in search of his prey.



THE GREYHOUND,

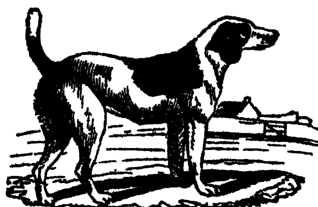
To facilitate his speed, has a sharp and slender body, his legs, so long and spare, stretch over a great space of ground, and in swiftness he even exceeds the hare, whose whole safety consists in the promptitude of her flight The Greyhound is a complete contrast to the terrier, as well in the structure of his body, as in his particular functions; the latter has a weak sight and a fine nose, because he is in greater need of a sure scent than a piercing eye, when he buries himself under ground, or forces his way through a thick underwood. On the other hand, the greyhound, who is

only useful in the plain, has but an indifferent nose; but then he never fails to see and distinguish his prey at a distance, and keeps it in sight through its numerous doublings.



THE SETTER.

THE Setting-dog stops, and crouches down, when he sees the game, to give his master notice of the discovery.



THE HARRIER

Is chiefly used in hare hunting. It has been remarked of this species, that their scent is peculiarly

acute, and the variety of their tones the most *musical* of all the dog tribe.



THE WATER SPANIEL.

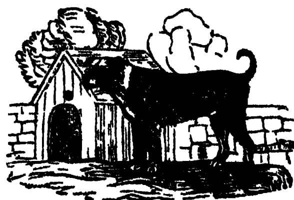
This animal is the most docile, and most attached to his race, of all the dog kind He is well calculated for the hunting of otters and ducks. He will fetch and carry at command, and dive to the bottom of deep water for a piece of money, which he will bring out and deposit at the feet of his master. The poet Cowper owned a favourite spaniel, to which he had given the name of Beau As he was walking by the Ouse, he was desirous to obtain one of the water-lilies which grew in the river, but was unable to reach it. Beau seemed disposed to assist him, but the poet called him off and pursued his rambles. On his return, however, Beau rushed into the stream, cropped a lily, and laid it at his master's feet.

There are various other sporting dogs, whose names vary according to their qualifications, and all equally zealous in performing the service prescribed them.

THE MASTIFF

Is a variety of the dog kind to which the people of this country are much attached, for his singular fidelity and care in guarding whatever property is placed under his protection; and this office he is well enabled to perform by his extraordinary strength and courage. His head is large, his under-lip hangs down on each side, and his countenance is noble and majestic; he seems to treat all other dogs with a contempt which clearly indicates a consciousness of his superiority over them. His disposition is generous, and he will not resent trifling insults, farther than by showing his ability to do so; of this we have a striking anecdote mentioned by Bewick:—A large and powerful Mastiff, being frequently annoyed by a mongrel cur, and teased by its incessant barking, at last, took him up in his mouth, by the back, and, with the greatest composure, dropped it over the quay, at Newcastle, into the river, without doing any further injury to an enemy so much his inferior.

The courage of the mastiff is acknowledged by all natural historians; he will even attack a lion, as we are assured in Stowe's "Annals of London," who gives an account of a combat with a lion and three mastiffs, in the presence of king James I.

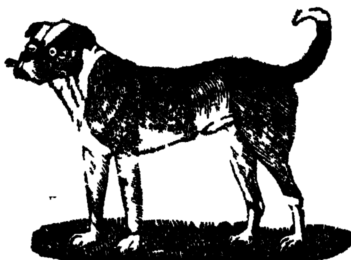




THE NEWFOUNDLAND DOG

Is one of the largest kind of dogs, measuring sometimes upwards of six feet in length, from the nose to the extremity of the tail, which it commonly carries, in a curl, over its rump. It is proportionally large in all its members, and possesses an uncommon degree of strength and courage, united with the greatest fidelity to its master ; these qualifications, added to the faculty of swimming, in a superior manner, and his being able to dive to any depth render him a most useful and valuable animal. When young it is gentle and engaging in its manners ; but, as it advances in years, its ferocity gradually increases, especially under confinement ; and, when arrived at maturity, it becomes a most formidable and, sometimes, a dangerous animal. This dog was originally brought from Newfoundland, where the inhabitants find it of the greatest service. Its great strength enables it to draw considerable weights. The Newfoundland dog is also a valuable servant to sea-faring persons, particularly in coasting

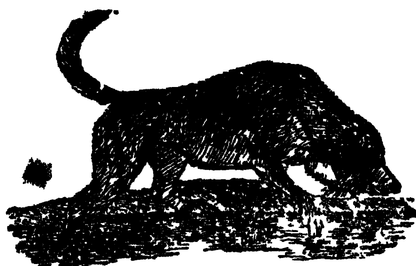
vessels, and those which navigate rivers; as in case of any one accidentally falling overboard, this dog will instantly jump after him, and either bring him safe to land, or keep him from sinking till proper assistance can be procured. Numerous instances of this have occurred. They likewise make excellent house or yard dogs, and guard whatever is committed to their care with the greatest fidelity.



THE BULL-DOG

Is not now so common, or held in such esteem, as it used to be when the brutal amusement of bull-baiting attracted the notice of the public; which, to the honour of humanity, is now abolished in England. The striking features of the Bull dog are the following: the under jaw is longer than the upper, and the tail curls upwards; the general colour is tawny, but it is sometimes brindled and marked with white, and sometimes, though rarely, wholly black or white. Savage in his nature, the bull-dog often bites in silence, without giving the slightest notice of his intention. Inured to battle and to cruelty, he appears insensible to the caresses of any one, even of his master. He is remarkably strong in proportion to his size, and is equally fierce and cruel. Four of these animals have been found to be an over-match for a lion; and when a bull-dog has once properly seized a bull, nothing can make

him quit his hold, but the giving way of the part, or loss of his life. So great is their ardour for the combat, that it is difficult to restrain them from it:—this is fully confirmed by a cruel experiment which was tried at a bull-baiting, where a bull-dog suffered his four feet to be cut off, in succession, yet continued to seize the bull after each amputation, and when all were off, he again attacked him with the greatest eagerness.



THE BLOOD-HOUND.

In ancient times the Blood-hound was an animal in great request; and, as he was remarkable for the fineness of his scent, he was frequently employed in hunting fugitives, robbers, and murderers. But as this country is now, happily, more civilized, and the arm of justice extended over its whole length and breadth, their services are no longer necessary. Still some few are kept in the northern parts of England, and in the royal forests; where they are sometimes used in discovering deer-stealers, whom they trace by the blood that issues from the wounds of the animals they have stolen. For example, we will relate an extraordinary instance of this, which occurred a few years back, in the New Forest. One of the foresters, in going over a style near the forest, observed blood upon it. It

almost immediately brought to his recollection that some deer had been killed, and several sheep stolen in the neighbourhood, and that this might possibly be the blood of one killed the preceding night. He went to the nearest lodge to give information, but the keeper being from home, he was under the necessity of going to another, at a considerable distance; from which the under-keeper accompanied him, along with a blood-hound. The dog being brought to the spot, was laid on the scent, and after following, for about a mile, the track which the depredator had taken, came, at last, to a heap of furze-faggots, belonging to the family of a cottager. The mistress of the house endeavoured to drive the hound away, but was prevented; and on the faggots being removed, a hole was discovered in the ground, which contained the body of a sheep, that had been recently killed. The circumstance which renders this more remarkable is, that the dog was not brought to the scent for more than sixteen hours after the sheep had been carried away.



THE CAT.

In the gentle habits of our common domestic cat, we have a striking exhibition of the conciliatory effects of kind usage, even on dispositions the most ferocious.

This demure-looking creature, sitting placidly by the fireside, is no other than a descendant of the wild cat, the most fierce and destructive animal which yet continues to range the woods, destroying poultry, lambs, as well as vermin and different kinds of game.

The wild cat, which is called the British tiger although found in every quarter of the globe, is three or four times as large as the house cat, and very strongly made, with tremendous claws and teeth. It lives mostly in trees; for prowling by night it seems peculiarly adapted. Not having the delicate scent of the dog, it depends solely upon sight, lying closely in ambush, and attacking animals by surprise. The pupil of its eye is capable of great contraction and dilation, it is narrow during the glare of day, but round and wide in the dark, which gives it great advantage in discovering and seizing its prey Its long soft hair is of a yellowish white colour, and of a deepish grey; really, though rather indistinctly, disposed like the streaks of the tiger's skin.

How changed from the wild animal is that which we rear in our houses, but which retains enough of its sanguinary disposition to rid us from those destructive and troublesome little creatures, by which we would be otherwise overrun. We have many varieties of colour in the domestic cat

The ordinary habits of the cat are so well known that it is unnecessary to detail them.



THE HARE.

No animal in creation furnishes more striking proof of the providential care of the great Creator, in the preservation of his creatures, than this little helpless animal. Its propensities and habits, as well as the peculiar conformation of its parts, are so admi-

rably adapted for this grand purpose, that, without them, the species must soon become extinct. Eagerly sought after by man, as well as by beasts and birds of prey, and totally incapable of self-defence, the race would soon be destroyed by its numerous enemies, were it not for the means of preservation and escape with which it is so amply furnished. The hare owes its chief safety to its prevailing passion—fear: conscious of its weak and defenceless state, it lives in constant alarm and apprehension, which, by keeping it lean, fit it the better for escaping danger by flight. The shape of the ears is well adapted to collect and convey the most minute impressions of sound; they are very long, and formed like the tubes made use of by deaf persons; and being flexible in every direction, cannot fail to catch the smallest vibration of the air. The eyes are remarkably large and prominent; and placed far back in the head, are well qualified to receive the rays of light in all directions, so that the creature has no occasion to turn its head to either side, to gain information of the situation of its pursuers. Hares sleep much, but always with their eyes open; they have no eye-lashes, and seem to have bad eyes. The inequality of length between its hind and fore legs is of singular service to it in particular situations, particularly in ascending steep and hilly places; and so sensible is the animal of this advantage, that, when pursued, it always shapes its course towards rising ground. Its general colour is a tawny, reddish brown, which frequently so nearly resembles the colour of the ground on which it lies, that it is easily overlooked; this is another great source of its safety. The nature of the soil has a great influence on hares as well as on all other animals; on the mountains, hares are larger and fatter than those on the plains, and are also of a different colour; the former being browner on the body, and whiter about the neck than the latter, which are more inclined to red.



THE RABBIT.

THE domestic rabbits, like other tame animals, vary much in colour and size. White, black, and grey, belong properly to Nature; they are, in fact, of almost all colours. We have seen some which weighed upwards of twenty pounds, with long pendant ears, reaching almost to the ground.

In some districts adjoining the sea, a large tract of land, of a light, sandy nature, called a *warren*, is appropriated to the breeding of rabbits, from which it is not unusual to take from two to three thousand couples in the winter season.

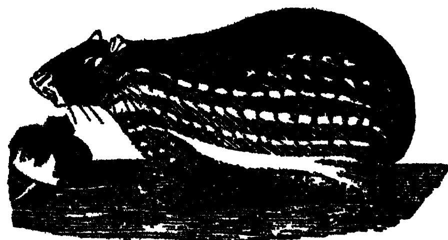


THE RAT.

UNDER the general name of Rat, several species of small animals have been comprised. The first of these, known in England by the name of the black

rat, is carnivorous. Hard substances, however, it prefers to soft ones: it devours every kind of stuff that comes in its way; it eats through wood, making hiding places in walls, thence issues in search of prey, and frequently returns with as much as it is able to draw along with it. The females bring forth several times in the year, though mostly in the summer season. There are many varieties in this species.

The WATER RAT is about the size of the black rat, but, in its nature and habits, rather resembling the otter than the rat. Like the otter it frequents the fresh waters, and is generally found on the borders of rivers, rivulets, and ponds; like that creature, too, it seldom feeds but upon fish, though sometimes it eats frogs, water insects, and even roots and herbs. This animal is not web-footed; but though every toe of its feet is separated, it swims with facility, keeps itself a long time above water, and thence carries off its prey in order to eat it when got to land, either on the grass or in its hole. The head of the water rat is shorter, the nose broader, the hair more erect, and the tail much longer than the land rat. In Catholic countries the peasants eat the flesh of the water rat during Lent.



THE GUINEA PIG.

THIS animal, though a native of the warm climates, lives and breeds in temperate and even cold countries,

provided it is properly taken care of. Its skin is of little or no value, and its flesh coarse and but indifferent food. The guinea-pig feeds on all sorts of herbs, and especially on parsley. It eats little at a time, but very often.

The female has been known to bring forth when only two months old; and never carries them above three weeks. The first litter is not so numerous as those that follow; it does not amount to above four or five; the second five or six, and the subsequent ones from seven to ten or eleven These animals produce at least every two months; and in one year a thousand might be obtained from a single pair, did they not destroy each other, and perish from the cold and wet



THE BEAVER.

When examined as an individual, separated from the rest of its kind, the Beaver appears to be a mild, gentle creature, but somewhat dull and melancholy. When alone, it has but little industry, few tricks, and is without cunning sufficient to guard itself against the most obvious snares laid for it by the hunters. Far from attacking any other animal, it is scarcely possessed of the art of self-defence, and fights only when its speed can no longer avail. Of quadrupeds, the beaver alone has a flat oval tail, covered with scales, which serves as a rudder to direct its motions in the water. It is the only quadruped

that has membranes between the toes, on the hind feet, and at the same time none on the fore ones, which it uses as hands, in carrying food to its mouth. It is the only one which, while it resembles a land animal in its fore parts, seems to approach the nature of an aquatic being in its hind ones.

The beavers begin to assemble in the month of June or July, in order to form a society, which is to continue for the greatest part of the year. They arrive in numbers from every side, and they presently form a company amounting to two or three hundred. The place of meeting is commonly where they intend to fix their abode, which is usually by the side of some lake or river. If it be a lake where the waters are always upon a level, they dispense with building a dam; but if it be a running stream, which is subject to floods and falls, they then set about building a dam, or pier, that crosses the river, so as to form a dead water on that part which lies above and below. This dam, or pier, is often eighty or a hundred feet long, and ten or twelve thick at the bottom. If we compare the greatness of the work with the power of the builders, it appears enormous; and the solidity with which it is constructed appears still more astonishing than its size. They build where some great tree is found growing by the side of the stream: though the tree is often thicker than a man's body, they begin to cut it down, with no other instrument than their teeth, which soon lay it level on the side they wish it to fall, which is always across the stream. The materials of which the dam is constructed is wood and clay. These animals cut large stakes with surprising ease, and drive one end of these stakes into the ground, at a small distance from each other, interspersing a few with those that are smaller and more pliant. They afterwards stop up all the intervals and cavities, both within and without, with clay, so that the water is duly confined. They take advantage of

the conveyance of their materials by water, and swim, with the clay on their tails, and their wooden stakes between their teeth, to the places where they are most required.

Their next care is to construct their several apartments, which are divided into three stories, one raised above the other; in this way, in case of the water's increase, they move a storey higher, and are then in no wise incommoded. Sometimes they build their houses altogether on dry land; but then they make trenches, in order to descend into the water, when they require it. The walls are about two feet thick; and as their teeth are more serviceable than saws, they cut off all the projecting pieces of wood. After this, when they have mixed up some clay and dry grass together, like mortar, they plaster, with the help of their tails, all their works, within and without. All these are finished about the month of August, at which time they begin to lay in their stores. In summer they regale themselves on the choicest fruits and plants, but in winter their food principally consists of the wood of various trees, which they soften in water, in quantities proportioned to the number of inhabitants. The largest branches are carried to the store-houses by several beavers, but the smaller branches are conveyed by a single beaver. Each, however, takes a different way, and has a different walk assigned to him, so that no one labourer may interrupt another in his work.—The whole family meet together in one of the largest apartments, to consume their respective portions, the food being fairly divided into equal shares. They never eat fish, nor any kind of animal food.

Such is the sagacity of the beaver, that some tribes of the American Indians consider them as a fallen race of human beings, who, in consequence of their wickedness, vexed the Good Spirit, and were condemned by him to their present shape; but that, in due time, they will be restored to their humanity.—

They allege that the beavers have the power of speech, and have heard them talk with each other, and seen them sitting in council on an offending member.—There is a remarkable custom among them, which, more than any other, confirms the Indians in their belief. Two or three old ones generally superintend the others, while constructing their habitation; and it is no unusual sight to see them beating those who exhibit any symptoms of laziness; should, however, any fellow be incorrigible, and persist in refusing to work, he is driven, by the rest, to seek shelter and provisions elsewhere. These outlaws are, therefore, obliged to pass a miserable winter, half starved on the banks of some stream, where they are easily trapped.



THE SQUIRREL

Is a beautiful little animal, which, though naturally wild and timid, is easily tamed, and soon becomes familiar. Its general food consists of fruit, almonds, hazel-nuts, beech-mast, and acorns. It is neat, clean, alert, lively, and industrious: its eye is full of fire, its countenance is sharp, its body is nervous, and its

limbs are supple. It generally holds itself almost upright, using its fore-feet as hands for a conveyance to its mouth. It gathers together a quantity of nuts during the summer, which it deposits in the hollow of some old tree, and to these has recourse for provision in winter.

There are many species which approach to that of the squirrel, though there are few varieties in the species itself. Some there are of an ash-colour, and others of red. The small grey squirrel is of a different species, and remains always grey.



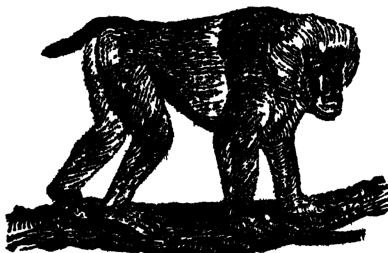
THE ORANG-OUTANG.

THIS name has been given to various animals, having some characters in common with each other, but of different proportions and persons. In this diversity of description, there is some difficulty in knowing which to follow. The Orang-outang bears so near a resemblance to the human race, as to offer a picture that may well mortify the pride of such as make their persons the principal object of their admiration. Those who have seen the various kinds of these animals in their native solitudes, have given surprising accounts of their force, swiftness, and ferocity. Of the smallest

kinds of them, several have, at different times, been brought into this country. The face was in some degree like the human countenance, the forehead larger, and the head round: but the nose was flat, the forehead low, and the chin deficient. From a picture so much resembling the human species, we should be disposed to look for a corresponding degree of intelligence: indeed, many parts of this animal are so like the human conformation, that it is somewhat extraordinary how they are productive of so few advantages. The organs of the voice are very much the same, and the brain also; but the orang-outang is dumb, and devoid of reason; which is an evident proof that no arrangement of matter can give mind, and that the body is formed in vain, unless a reasoning principle is infused to direct its operations. However, it is certain that such of the animals as have been publicly exhibited, have discovered a degree of imitation superior to that of any other quadruped. This animal has been seen to sit at table, unfold its napkin, wipe its lips, and feed itself with a spoon and fork. Many of these habits might have been the result of education, but we are informed that the animal requires but a short time to arrive at a great degree of imitative perfection.

We are assured by M. de la Brusse, that "the orang-outangs often attempt to surprise the female Negroes. I know," he continues, "a woman of Lowando, that had lived among these animals for three years.—They grow from six to seven feet high, and are of unequalled strength. They build sheds, and make use of clubs for their defence. Their faces are broad, their noses flat, their ears without a tip; their skins are fairer than that of a Mulatto, but they are covered on many parts of their body with long and tawny-coloured hair; their bellies are extremely large; their heels flat, and yet rising behind about half an inch; they sometimes walk upright, and sometimes go on all-fours, when fantastically disposed."

Mr. Grose says, that "the Governor of Bombay had two of these animals sent him, a male and female. They were scarcely two feet high, but bore a strong resemblance to the human form. They walked erect upon their hind feet, and were of a pale colour, without any hairs on any part, except where mankind generally have them. Their actions perfectly resembled those of the human species, and their melancholy plainly evinced how strongly they felt the weight of their captivity. The female died on board," he adds, "and the male showed all real signs of grief, and took the death of his companion so greatly to heart, that he refused his food, and did not survive her more than two days."



THE BABOON,

Properly so called, is from three to four feet, and frequently six feet high, with a strong body and limbs, and having on each side of its face a pouch, into which, when its appetite is satisfied, it puts the remainder of its provisions. It walks more commonly upon all-four than upright, and its hands and feet are armed with long, sharp claws. It is found to be one of the most formidable of the savage race, in those countries where it is bred. They are under a sort of

natural discipline, and execute whatever they undertake, with surprising skill and ingenuity. They are extremely fond of ripe fruit; and when they engage in robbing a vineyard or orchard, they do it in large companies, and with the greatest deliberation. They throw the fruit from one to another, along a regular line, reaching to their habitation, so as to get it safely in their store-house; and while the business is going forward, a most profound silence is observed. All this time one continues on the watch, with the greatest assiduity and attention; and whenever he perceives any one approaching, he instantly sets up a loud cry, and at this signal they all make their escape, with the utmost rapidity.



THE STRIATED MONKEY.

The Striated Monkey is one of the smallest of the tribe, its head and body being hardly twelve inches in length. It has a very long tuft of ash-coloured hairs before and behind the ears, its face is naked, and of a dull flesh-colour, the body is beautifully marked with alternate transverse bars of ash-colour and black. Its shoulders are of a brownish red, tail long, bushy, and marked with alternate rings of ash-colour and black.

This beautiful little animal is a native of Brazil

It feeds on fruits, vegetables, insects, and snails, and is said to be fond of fish.



THE MONKEY.

THE varieties in the larger tribes ot the monkey kind are but few; but when we come to the smaller class, the differences among them seem too tedious to be mentioned. There is scarcely, indeed, a country in hot climates, that does not swarm with them, and scarcely a forest that is not inhabited by a distinct species. Every different wood may be considered as a separate colony of monkeys, differing from those of the next district, in colour, size, and powers of mischief. In their native woods, they are not less the plague of man than of other animals. They are in possession of every forest where they reside, and may be considered as the masters of the place. The large serpents are the only creatures which venture to oppose the monkey; they are frequently seen winding up the trees, and when they happen to surprise the little animals asleep, they swallow them before they have time for their defence. The two most mischievous animals in nature thus keep the forest between them, and are continually employed in doing harm to each other. Their enmity to mankind is sometimes ridiculous, and sometimes serious. The natives consider these animals as their greatest plagues, for they come

in companies to destroy the fields of Indian corn, and rice, and the sugar plantations They carry off as much as they can, and spoil ten times more than they run away with.



THE ELEPHANT.

This has been considered as the noblest quadruped, since it is not less remarkable for its docility and understanding, than for the magnitude of its stature. All the first authorities agree in giving it the character of the most sagacious animal next to man; and yet if the idea of its mental capacity were taken from its outward form, its abilities would be but inadequately appreciated. At first view it presents the spectator with the most unwieldy appearance; and its body seems to be composed of an enormous mass of flesh, which looks as though it were scarcely animated. It is invested with a tough hide, uncovered with hair, its huge misshapen legs appear scarcely formed for motion; and its small eyes, long trunk or proboscis, and large ears, give it an air of extreme dulness and stupidity. But the examination of its history will correct our erroneous prepossessions, and our surprise will be increased when we consider the various advantages it derives from so clumsy a conformation.

The Elephant has been found to vary from seven feet in height; its first view never fails to excite astonishment on account of its prodigious magnitude, which in some measure baffles imagination; indeed, to be well conceived, it is necessary that it should be seen. In general the forehead of the elephant is high and rising, the proboscis or trunk long, the back rising in an arch, and the whole animal short in proportion to its great height. It is the strongest as well as the largest of all animals, but is mild, peaceable, and brave: and only uses force to protect itself or its companions. In a state of nature the elephant appears to be a social, friendly creature, never separating from its companions. A drove of them, at a distance, has a very formidable appearance; and if they enter into any enclosure, they quickly destroy every thing they meet with. On these occasions, it would be dangerous in the extreme to attack the whole body; but it sometimes happens, that one or two are found lingering behind the rest, and it is against them that the efforts of the hunters are directed. They oppose an enemy with their tusks, seize him with their trunks, throw him up into the air, and on falling tread him under their feet: but when left undisturbed they do no kind of mischief wantonly.

In their natural state, elephants are unable to live far from water; but they always disturb it before they drink. Its manner of drinking is very remarkable; it dips the end of its trunk into the water, and sucks up just as much as completely fills that fleshy tube. It then lifts up its head, and turning the end of its trunk deep into its mouth, blows strongly, and thus forces the water into its throat, down which it is heard to pour with a loud gurgling noise.

The elephant feeds chiefly on vegetables; and when one of a flock meets with a spot of good pasture, he invites the rest to share in the entertainment; and after they are satisfied, they retire into the woods, with the greatest regularity.

Of all the animal creation, the elephant, the dog, the monkey, and the beaver, are the most remarkable for their sagacity; but the elephant is superior to them all; he unites all their most eminent qualities. The hand is the principal instrument of the monkey's dexterity; the elephant with his trunk, which serves him instead of arms and hands, can lift up and seize the smallest as well as the largest objects, carry them to his mouth, place them on his back, hold them, or throw them far off, and has the same dexterity as the monkey, with, at the same time, the tractableness of the dog; he is, like him, susceptible of gratitude, and capable of strong attachment; he uses himself to man without reluctance, and submits to him, not so much by force as by good treatment; he serves him with intelligence and fidelity; like the beaver, the elephant loves the society of his species, and makes them understand him.

The female elephant goes two years with young, and only brings forth one, which has teeth when born, and is then larger than a boar; yet its tusks are not visible but they appear soon after, and at six months' old are some inches in length; at that age the elephant is larger than an ox; and the tusks continue to grow till he is advanced in years. The age to which they live has not been fully ascertained; but there is reason to believe that it is not less than two hundred years. Having nothing to fear from other animals, and little even from man, who takes them with great difficulty, the species has not decreased, and is generally dispersed in all the southern parts of Africa and Asia.

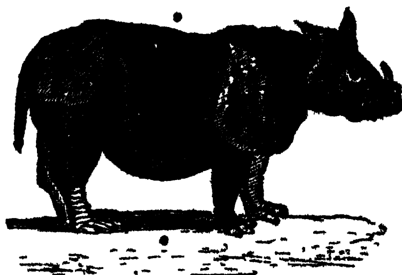
The common colour of the elephant is ash-grey or blackish. The white are extremely scarce; some of them have been seen at different times in the Indies, where, also, some are found of a reddish colour.

In order to give an idea of the nature and intelligence of this singular animal, we shall insert some

particulars communicated by a celebrated traveller :— The Indians make use of the elephant to carry artillery over mountains; and it is then that he gives the greatest proofs of his intelligence. He acts in the following manner—when the oxen, yoked two and two, endeavour to draw up the mountain the piece of artillery, the elephant pushes the breach of the gun with his forehead; and at every effort that he makes, he supports the carriage with his knee, which he places near the wheel. And it appears as if he understands what is said to him:—when his leader employs him in some hard labour, he explains what is his work, and the reasons which ought to engage him to obey. If the elephant shows an aversion to comply, the leader promises to give him arrack, or something he likes; then the animal agrees to every thing proposed; but it is dangerous to forfeit his word, as more than one leader has been the victim of his deception. An instance of this occurred in the Deccan, which deserves to be recorded, and, however incredible it may appear, is literally true: an elephant had been revenged of his *cornea*, as the leader is called, by killing him. His wife, witness of the catastrophe, took her two children and threw them at the feet of the animal, still furious, saying "Since thou hast killed my husband, take also my life, and that of my children." The elephant stopped short, grew calm, and, as if he had been moved by regret and compassion, took the largest of the two children, with his trunk, placed him on his neck, adopted him for his cornea, and would have no other.

Jesse, in his "Gleanings of Natural History," gives the following anecdote of the sagacity of this animal: he says "I was one day feeding the poor elephant (who was so barbarously put to death at Exeter 'Change,) with potatoes, which he took out of my hand. One of them, a round one, fell on the floor, just out of the reach of his proboscis. He leaned

against his wooden bar, put out his trunk, and could just touch the potatoe, but could not pick it up. After several ineffectual efforts, he at last blew the potatoe against the opposite wall, with sufficient force to make it rebound, and he then, without difficulty, secured it."



THE RHINOCEROS.

After the elephant, the Rhinoceros is the most powerful of all quadrupeds; he is about twelve feet in length, from the extremity of the snout to the tail; six or seven feet in height; and the circumference of his body is very near equal to his length; he is, therefore, like the elephant in bulk, and if he appears much smaller, it is because his legs are much shorter in proportion to those of the elephant; but he differs widely from that sagacious animal in his natural faculties and his intelligence.

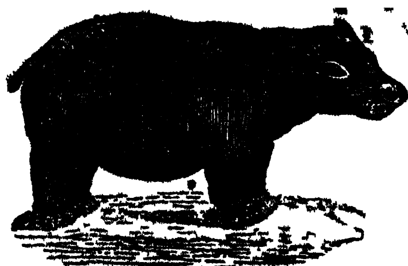
The head of the rhinoceros is furnished with a horn, growing from the snout; its upper lip is long, pointed, and very pliable, serving to collect its food into its mouth; its skin is naked, very hard, and lying upon the body in folds: two of these are remarkable—one above the shoulders, the other over the rump; the skin is of a brown colour, and will turn a sharp-edged weapon. The horn is sometimes more than three feet

long, and grows from the solid bone; thus, armed with a weapon that keeps off even the elephant and tiger, and defended with a thick horny hide that defies the claws of the lion, the rhinoceros has nothing to fear from any animal.

The rhinoceros is a native of the deserts of Asia and Africa; and is generally found in the extensive forests inhabited by the elephant and the lion. It lives chiefly on vegetable food, and is, therefore, of a peaceable and harmless disposition; but it is not deficient in courage—disdaining to fly when attacked by any other animal. It appears to rest contented with the consciousness of security, though it is in every way calculated for engaging in combat. It is particularly fond of the prickly branches of trees, and is seen to feed upon such thorny shrubs as would be dangerous for other animals to gather or to swallow.

The method of taking them, is chiefly by watching them when they are in some marshy place, where they are accustomed to sleep, and wallow like hogs. If there happens to be a young one and an old one together, the former is shot with fire-arms, for no other instrument that can be employed will enter its hide; when the old one is killed, the young one is taken and tamed. They are, also, occasionally taken in pit-falls, when going from the forest to the river side: these snares are covered with green branches, and laid in the paths which they most commonly frequent.

A variety of the rhinoceros is found in Africa: it has a double horn, one growing above the other; and thus constituting one of the strongest and most dangerous weapons which nature has bestowed upon any of the animal creation. The horn is perfectly solid, formed of the hardest bony substance, and grows from the upper jaw-bone by so strong a protuberance as, in appearance, to make but one part with the rest of the bone.



THE HIPPOPOTAMUS.

The form of the Hippopotamus is extremely uncouth; it is superior to the rhinoceros in size, and measures nearly eleven feet in length, and upwards of nine in the circumference of its body, which is fat and round. The head is extremely large, the mouth capable of great expansion, and the teeth are large and strong. The hide in some parts is two inches thick, and is said to be sufficient for a camel's load, when newly flayed.

This species is an inhabitant of the countries bordering on the larger rivers of Africa, and generally where the banks are muddy. It spends the greater part of its time under water, feeding on water plants and roots at the bottom of rivers. It seldom quits the water, except during the night, in quest of food; but whenever it hears the slightest noise, it betakes itself to that element, and dives instantly to the bottom: and when it ascends to the surface to breathe, the nostrils only are above the level; hence it is very difficult to kill it.

In the south of Africa, this animal is sometimes caught in pits made in the paths leading to their haunts. Sparrmann says, notwithstanding the unwieldy appearance of the hippopotamus, it can run with considerable swiftness. He mentions that a

Negro, who had irritated one, was pursued by it, and had great difficulty in escaping, after a long pursuit. Professor Thunberg mentions that, while on a hunting party, a female came to land, in order to calve. They concealed themselves among the bushes, till the mother and her calf made their appearance, and were approaching the river. They fired at and killed the female, thinking to secure the young one; but it instinctively made the best of its way to the river, and dived to the bottom.



THE LION.

The burning deserts of Africa produce the most terrible and undaunted Lions, where they seem to be the terror of the neighbouring kingdoms. But the species is not very numerous, and seems to be daily diminishing. This must be occasioned by the increase of mankind; man alone being capable of encountering these tyrants of the forest, and preventing their increase.

The outward form of the lion seems to speak the superiority of his internal qualities. His figure is striking, his look confident and bold, his gait proud, and his voice terrible. His stature is not overgrown, like that of the elephant, nor is his shape clumsy,

like that of the hippopotamus. He is, in every respect, compact and well-proportioned—a perfect model of strength joined with agility.

The largest lions are about eight or nine feet in length, from the snout to the insertion of the tail, which is of itself four feet long; and these large lions are about four or five feet in height. Those of the small size are about five feet and a half in length, and three and a half in height.

The lioness, in all her dimensions, is about a fourth less than the lion. The lion is furnished with a mane, which becomes longer, as he advances in age. The lioness, however, is without this appendage, at every age.

The lion is generally of a yellow colour. His eyes, like those of the cat, seem fitted for seeing best in the dark: for this reason, he seldom appears in the open day, but ravages chiefly by night. When hungry, he boldly attacks all animals that come in his way: he devours a great deal at a time, and generally fills himself for two or three days to come. His teeth are so strong that he easily breaks the bones, and swallows them with the rest of the body. He drinks always when he can meet with water, lapping it like a dog. The roaring of the lion is so loud, that when it is heard in the night, and re-echoed by the mountains, it resembles distant thunder; but, when enraged, he has a different growl, which is short, broken, and extremely terrific.

The lion, while young, lives by hunting in the forest, at the greatest distance from any human habitation; but, when he grows old, he boldly comes down to more frequented places, and attacks the flocks and herds of the husbandman.

The lioness, though naturally less strong, less courageous, and consequently less dangerous than the lion, becomes terrible when she has got young ones to provide for. She then makes her incursions with even

more intrepidity than the lion himself; she throws herself indiscriminately among men and animals, destroys without distinction, loads herself with the spoil, and carries it home to her cubs. She usually brings her young forth in the most retired places, and when she fears to have her retreat discovered, transports them from one place to another, and if obstructed defends them with determined courage, and fights to the last.

The most usual manner of taking this animal is when it is only a cub, and incapable of resistance.—The natives watch the time of the dam's absence, and, with a swift horse carry away her young.

There are many interesting anecdotes on record of this noble animal.

M. Felix, the keeper of the menagerie at Paris brought two lions, a male and a female, to the Jardin des Plants. A short time after, he was taken ill, and was unable to attend the lions; another person, therefore, had to perform this duty. The male, sad and solitary, remained, from that moment constantly seated at the end of his cage, and refused food from the stranger, whose presence was hateful to him and whom he often menaced by bellowing. The company even of the female appeared to be displeasing to him, and he paid no attention to her. The uneasiness of the animal caused the belief that he was unwell, but he was so irritable, that no one dared to approach him At length Felix recovered, and, with the intention to surprise the lion, he crawled softly to the cage, and showed only his face between the bars. The lion in a moment, made a bound, leaped against the bars, patted him with its paws, licked his hands and face, and trembled with pleasure The female also ran to him, but the lion drove her back, and seemed angry, and a quarrel was about to take place, but Felix entered the cage to pacify them. He caressed them by turns: and was afterwards frequently seen between

them. He had so great a command over these animals, that whenever he wished them to separate, and retire to their cages, he had only to give the order.—When he had a desire that they should lie down, and show strangers their paws or throats, on the least sign from him, they would lie down on their backs, hold up their paws, and open their throats.

There was, in the menagerie at Brussels, a large lion, whose den required some repairs. The keeper brought a carpenter to mend it; but when the workman saw the tremendous animal, he started back terrified. The keeper entered the cage, and led the lion to the upper end of it, whilst the lower part of it was repairing. The keeper then amused himself for some time, playing with the lion; and being wearied, he soon fell into a sound sleep. The carpenter having full reliance on the vigilance of the keeper, pursued his work as quick as possible; and, when he had finished, he called him to see that the repairs were to his mind. The keeper made no answer. Having repeatedly called in vain, he began to feel alarmed for his situation, and resolved to go to the upper part of the cage, where, looking through the railing, he saw the lion and the keeper sleeping side by side. From the impulse of the moment, the astonished carpenter uttered a loud cry; the lion, awakened and surprised by the sudden yell, started on his feet, and stared at the terrified mechanic, with an eye of fury, then, placing his paw on the breast of his keeper, lay down again to his repose. At length the keeper was roused by some of the attendants, but did not appear in the least apprehensive for his own safety, but shook the lion by the paw, and then quietly led him to his former residence.



THE TIGER.

IMMEDIATELY after the Lion, in the class of carnivorous animals, comes the Tiger; which, while he possesses all the bad qualities of the former, seems to be a stranger to his good ones. To pride, courage, and strength, the lion adds greatness, and sometimes clemency; while the tiger, without provocation is fierce, without necessity is cruel.

No quadruped surpasses the tiger in beauty; the glossy smoothness of his hair, the extreme blackness of the streaks with which he is marked, and the bright yellow ground on which they are placed, call forth our admiration. To this beauty of colouring is added a great elegance of form. Unfortunately, however, this animal's disposition is as mischievous, as his form is admirable. It has no characteristics but those of the most insatiable cruelty. For instinct he has nothing but a uniform rage, a blind fury—so blind, indeed, that he frequently devours his progeny; and if the female offers to defend her young, she is herself torn in pieces. It is found in all the countries which are inhabited by the elephant and the rhinoceros.

This animal, though glutted with slaughter, is not satisfied, but still continues the carnage, and seems to have its fierceness only inflamed, by finding no resist

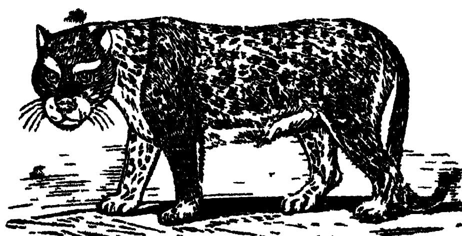
ance. It is the scourge of the country, wherever it is found; it fears neither the threats nor the opposition of mankind: and not unfrequently ventures to attack the lion himself. Happily, this animal is not common.

Like all its congeners, its motions are irregular: it leaps rather than runs; and takes its prey rather by surprise than by hunting it down. Neither force nor caresses can prevail in taming its stubborn nature; and time, instead of softening its disposition, only serves to increase its malignity.

Like the lioness, the tigress produces four or five young ones at a birth. From her nature, she is fierce at all times; but when surrounded by her infant progeny, and in the smallest danger of losing them, her fury becomes terrible. To oppose the invaders of her den, she dares every danger. On such occasions, she pursues the spoiler with an enmity most inveterate; and he, contented to lose a part rather than the whole, is frequently obliged to drop one of the cubs. With this she hastens to her den, and immediately renews the chase; he then drops another, and by the time she has placed that in safety, he generally escapes with the remainder. Should her young be torn from her entirely, the tigress becomes desperate, boldly approaches the towns, and commits incredible violence.

Mr Brown, in his anecdotes, relates the following, which proves the instinctive love of flesh in tigers. A party of gentlemen from Bombay, one day visiting the stupendous cavern temple of Elephanta, discovered a tiger whelp in one of the obscure recesses of the edifice. Desirous of kidnapping the cub, without encountering the fury of its dam, they took it up hastily and cautiously, and retreated. Being left entirely at liberty, and extremely well fed, the tiger grew rapidly, appeared tame, and fondling as a dog, and in every respect entirely domesticated. At length, when having attained a vast size, and notwithstanding its apparent gentleness, begun to inspire terror by its

tremendous powers of doing mischief, a piece of raw meat, dripping with blood, fell in his way. It is to be observed that up to that moment it had been studiously kept from raw animal food. The instant, however, it had dipped its tongue in blood, something like madness seemed to have seized upon the animal—a destructive principle, hitherto dormant, was awakened—it darted fiercely, and with glaring eyes, upon its prey—tore it with fury to pieces, and growling and roaring in the most fearful manner rushed off towards the jungles.



THE PANTHER.

The Panther is about six feet in length, exclusive of the tail, which is nearly three feet. The colour of the upper part of the body is bright tawney yellow, paler on the sides, and nearly white on the belly; beautifully marked on the sides, back, and flanks, with black spots, disposed in circles of four or five each. On the face, breast, and legs the spots are single. The ears are short, and more pointed than those of the tiger. The habits of the panther are very similar to those of the tiger. He is a native of Africa, and is found from Barbary to the remotest parts of Guinea.

Some years ago, Mrs Bowditch brought a tame panther with her from Africa. This animal was called Sai. One day, at Cape Coast, he found the servant

appointed to attend on him sitting asleep, resting his back against a door; Sai instantly lifted up his paw, and gave the sleeper a tap on the side of the cheek, which knocked him over, and when the man awaked, he found Sai wagging his tail, and seemingly enjoying the fun. Another day, when a woman was scrubbing the floor, he jumped on her back; and when the woman screamed with fright, he sprang off, and began rolling over and over like a kitten. When put on board ship, he was first confined in a cage; and the greatest pleasure he had, was when Mrs. Bowditch gave him a little twisted cup or cornet of stiff paper, with some lavender-water in it, and with this he was so delighted, that he would roll himself over and over, and rub his paws against his face. At first he used to put his claws out when he attempted to snatch anything; but as Mrs. Bowditch would never give him any lavender-water when this was the case, he soon learnt to keep his claws in. This poor panther died soon after it reached England.

THE HYÆNA.

It would be difficult to convey a good idea of this animal's figure and fierceness; more savage and untameable than any other quadruped, it seems to be continually in a state of rage—for ever growling, except when it is receiving its food; its eyes then glisten, the bristles of its back stand upright, its head hangs down, and its teeth come into view; all which give it the most frightful appearance, particularly when heightened by a frightful growl. It appears indeed, to be the most untractable, and, for its size, the most terrible of all animals; nor does its courage fall short of its fierceness, it defends itself against the largest animals, and seldom fails to conquer those of its own

size. Although taken very young, it never can be thoroughly domesticated.

The Hyæna generally hunts for its prey during the night, and attacks every animal it meets with. They have been known to collect in vast numbers, and, following an army, feast on the dead bodies left behind on the battle-field; and also, when pressed with hunger, to ransack the repositories of the dead, and greedily devour the putrid carcasses.



THE PUMA, OR COUGAR.

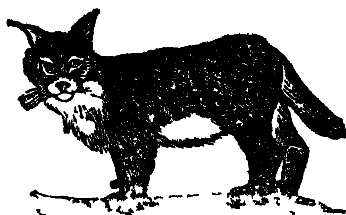
The Puma, Cougar, or, as he was once called, the American Lion, was formerly found in almost every part of the New World, from Canada, in the north, to Patagonia, in the south.

The length of the body of the Puma is about four feet; its height somewhat more than two. The tail is nearly two feet in length, without any tuft at its point. The head is round, the ears short, and the general colour of the fur brownish red. The belly is white, or pale cream colour.

This animal lives in high and mountainous wooded tracts. It is said to be particularly fond of horse-flesh, but also feeds on all domestic and almost all wild

animals, which it is capable of overcoming. Though of small size, this species is extremely powerful. In attacking its prey, it generally contrives to leap on the back of the victim, whom it seldom fails to vanquish.

The habits of the puma are somewhat peculiar. When attacked, it will climb the nearest tree for safety, and is there chiefly shot by the hunters.



THE LYNX.

The usual length of the Lynx is about two feet six inches, its tail six, and its height sixteen inches. The ears are erect, and have a long pencil of black hairs at the tip. The fur is long, thick, and soft, of a greyish ash colour on the upper parts, with a reddish tinge, marked with dusky spots; the under parts are white. The legs and feet are thick, short, and strong, covered with long fur; and the extremity of the tail is black. The eyes are of a pale yellow, and in ancient times the creature was proverbial for its piercing sight.

The lynx inhabits the northern parts of Europe, Asia, and America, differing from most of the cat tribe in its preference for cold or temperate climates. These animals conceal themselves in thick forests, prey upon stags, roebucks, hares, and other animals, and climb trees, with rapidity, in pursuit of birds and squirrels. The fur of the lynx is a valuable and extensive article of commerce.



THE JACKAL,

COMMONLY called the *lion's provider*, is not much larger than the fox, which he resembles in the appearance of the fore-part of his body. His skin is of a bright yellow colour. The jackals often unite to attack their prey, and make a most hideous noise, which, rousing the king of the forest from his slumbers, brings him to the place of food and plunder: at his arrival, the petty thieves, awed by the greater strength of their new messmate, retire to a distance; and hence the fabulous story of their attendance on the lion, to provide his food. These animals are always seen in large flocks of forty or fifty, and hunt, like hounds in full cry, from evening till morning. In want of prey, they drag the dead out of their tombs, and feed greedily on putrid corpses; but notwithstanding the natural ferocity of those animals, it is said that, when taken young, they may be easily tamed; and, like dogs, they love to be fondled, and wag their tails, and show a considerable degree of attachment to their masters. They are common in many parts of the East, and they act as scavengers: the people do not annoy them in their nocturnal visits.



THE WOLF

Is one of those animals whose appetite for animal food is the most vehement, he is also furnished with strength cunning and agility for pursuing and conveying his prey. He is naturally dull and cowardly; but frequently disappointed and almost reduced to a state of famine, he becomes ingenious from want, and courageous from necessity. When pressed with hunger he braves danger, and attacks lambs, sheep, and even dogs, for all animal food becomes thus equally agreeable to him He so nearly resembles the dog, that he seems modelled on the same plan; but his nature is so different that he only preserves the ill qualities of the dog, without any of the good. Though taken young and tamed very early, the wolf rarely has an attachment like a dog, but on the contrary is generally the enemy of all society, and does not keep much company even with those of its kind. When they are seen in packs together, they testify their fierce disposition by loud howling; but as soon as their expedition is completed, their society is at an end, and each returns in silence to his solitary retreat. The wolf sleeps when his hunger is satisfied, or when he is fatigued, and rather by day than by night; and, like the dog, he is easily waked.

He drinks frequently; but although very voracious, he supports hunger for a long time and often lives four or five days without food, provided he be sup-

plied with water. His strength is very great, particularly in his foreparts, his neck, and jaws. He carries off a sheep in his mouth and runs with it much swifter than the shepherds, who frequently pursue him; so that nothing but the dogs can overtake him, and oblige him to quit his prey. He bites cruelly, and always with greater savageness in proportion as he is less resisted; but he never fights except when he is under the necessity of satisfying hunger, or making good his escape. He has his senses in great perfection: his eye, his ear, and his sense of smelling, which is even superior to the other two, are all extremely acute. He prefers those animals which he kills himself to those he finds dead, but he does not disdain these when no better are to be had.

When once accustomed to human flesh, they ever after prefer it, and rather attack the shepherd than his flock. The hunting the wolf is a favourite diversion in some countries, and it must be confessed that it seems to be the most useful of any of the field sports. France, Spain, and Italy are greatly infested with them; but he has long since been expelled from Britain and Ireland, where he committed great havoc amongst the flocks. The last wolf known in Scotland was destroyed at Lochaber, by Sir Ewen Cameron of Lochiel, who died in 1719. They infested Ireland long after their extinction in Britain.

On the 10th of January 1830, a frightful event spread terror throughout the neighbourhood of Eaux-Bonnes, in the department of Basses Pyrenees. The curate of the little village of Aha, situated on the mountain, was returning home on horseback after administering the sacrament, when he was surrounded by wolves, which precipitated themselves upon him and his horse with all the ferocity occasioned by hunger. A number of bones and fragments of flesh which were strewed about, as well as the traces of blood with which the snow was crimsoned, left no

doubt of the horrible fate of the unfortunate clergyman, who fell a victim to his pious zeal.

The wolves, driven by cold and hunger from their haunts in the Pyrenees, having spread themselves in vast bands over the country, at the time the above occurrence took place, orders were given by the prefect of the department for a general chase on the 22nd January. The country magistrates, with a number of the inhabitants, commenced the chase, and relieved the extensive district from these dangerous visitors by killing many, and driving the rest to their native fastnesses.

In the summer of 1824, a singular equipage was seen for upwards of six months in the streets of Munich. It was a calash, drawn by two enormous wolves, which a gentleman had found when very young in a wood near Wilna, and which he had so well trained that they had all the docility of horses.



THE FOX.

The cunning and art of the Fox have always been proverbial, and he partly merits his reputation. Patient and prudent he waits the opportunity for depredation, and varies his conduct with every occasion. He is furnished both with skill and industry, which he turns to his advantage. His kennel is generally found at the edge of the wood, and yet within an easy journey of some neighbouring farm or cottage; he smells the poultry at a distance, he seizes his oppor-

tunity, creeps slily along, makes the attack, and seldom returns without his booty.

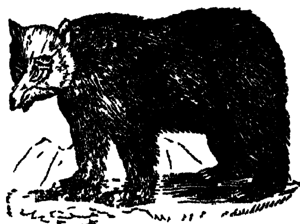
The fox is of a wild and ferocious disposition, so much so, that it is hardly possible to render him wholly tame. Perhaps there is no predatory animal more crafty than he is, not only in providing himself with a secure retreat wherein to repose and rear his young, but also in the stratagems he employs for catching his prey. He feeds indiscriminately on lambs, geese, fowls, hares, rabbits, and small birds of all kinds. When all other kinds of food fail him, he will destroy serpents, lizards, toads, moles, frogs, rats and mice; and when extremely pressed by hunger, he will feed on roots and other vegetable substances; but this is only in cases of necessity.

The fox sometimes runs down his prey, and at others he slips cautiously forward like a cat, dragging his body on the ground, and then makes a sudden spring at his booty, seldom missing his aim. He generally keeps a considerable supply of provisions in store, but always in different places, to serve him under his various necessities.

Fox-hunting has long been a favourite British field-sport, and in no other country is it pursued with such ardour and intrepidity. Both dogs and horses are bred with particular care for this pastime; and both, particularly the last, fall victims in the arduous chase. The strength of the fox is so great that he frequently escapes the utmost efforts of his enemies to take him, and returns to his burrow in safety. But when all shifts have failed him, and he is at last overtaken, he defends himself with great obstinacy, and silently fights till he is literally torn in pieces by the dogs.

Sir Walter Scott relates a curious anecdote of a fox-hunt in which he was himself concerned. The hounds had had a long chase, and at last the fox made for Crichton Castle, and, leaping in at a window,

endeavoured to find refuge in some of the holes of that vast ruin. The hounds followed him, however, and compelled him to make his exit by a channel similar to that by which he had entered. It was then, Sir Walter says, one of the most singular and striking sights he ever witnessed, to see the long stream of dogs pouring out of the window upon the ground, as if it were a cascade of animated creatures, variegated by numerous colours.



THE BEAR.

Of the Bear there are three different kinds; the brown bear of the Alps, the black bear of North America, which is smaller, and the great Greenland or white bear. The brown bear is properly an inhabitant of the temperate climates; the black subsists in colder situations, while the great white bear is found in the icy regions, and lives where scarcely any other animal can find subsistence.

The brown bear is both fierce and solitary; chooses its den in the most gloomy parts of the forest, and takes refuge among the most dangerous precipices of unfrequented mountains. It passes some months of the winter without provisions, but seems to subsist on the exuberance of its former flesh, and only feels the calls of hunger when the fat it had acquired during summer begins to be entirely wasted away.

so that when the animal retires to its den for the winter, it is extremely fat, but at the end of about forty days, when it seeks for fresh nourishment, it seems to have slept all its flesh away.

The female takes great care to provide a proper retreat for her young; she brings forth in winter, and provides a bed of hay in the warmest part of her den for the little ones, which in the spring begin to follow her about. Her fury is more violent, as well as more dangerous, than that of the male.

The brown bear is capable of some degree of instruction; though when tamed it seems gentle to its master, yet it is always to be distrusted, and managed with caution, as it is frequently treacherous and resentful without a cause. These animals are frequently seen in this country dancing in awkward measures upon their hind feet to the voice or instrument of their leader.

When full grown the bear can never be tamed, it still continues its native fierceness, and, though confined in a cage, at the approach of its keeper it flies to attack him. But notwithstanding its savage nature, the natives of the countries where it is found hunt it with great perseverance and alacrity.

The voice of the bear is a kind of growl, a harsh murmur, which when enraged is heightened by a clashing of the teeth. He enjoys the sense of seeing, hearing, and feeling in great perfection; and yet compared with the size of his body, his eye is very small, his ears are also short, his skin is coarse, and his hair very thick. His smell is exquisite; more so, perhaps, than that of any other animal. He strikes with his paws as a man does with his fists; but in whatever particulars the bear may bear a rude kind of resemblance to the human species, he is only rendered the more deformed by them; nor do they give him the smallest superiority over other animals.

THE GREAT WHITE OR POLAR BEAR.

THIS immense animal differs in many particulars from the rest of its congeners. Captain Lyon, when on the northern expedition, killed one which measured eight feet seven inches and a half in length, and was sixteen hundred pounds weight.

This species inhabits the confines of the Arctic circle, and has been found about the eightieth degree, and even as far northwards as navigators have yet penetrated into those inhospitable seas, which seem to accord well with the sullen and ferocious nature of this terrible animal. In the words of the poet,—

——————"There the shapeless bear,
With dangling ice, all horrid, stalks forlorn
Slow-pac'd, and sourer as the storms increase,
He makes his bed beneath the inclement drift:
And, with stern patience scorning meek complaint,
Hardens his heart against assailing want."

This animal has never been found farther south than Newfoundland, and his chief residences are the shores of Hudson's Bay, Spitzbergen, and Greenland, on one side of the Arctic circle, and Nova Zembla on the other. Isolated instances have occurred of the polar bear having been carried on floating icebergs to the coasts of Iceland and Norway.

The polar bear feeds entirely on animal matter, but his habits are not decidedly predatory, for he prefers dead animals to those in a living state, subsisting chiefly on the floating carcasses of whales, after they have been stript of their blubber by those employed in the whale fisheries He sometimes, however, preys upon seals which he catches as they ascend to the surface to breathe. As this bear swims with much ease, he is very capable of capturing his prey, and

not unfrequently takes fish when they enter gulfs or holes.



THE RACOON.

The Racoon is of a greyish colour, with a head shaped somewhat like that of a fox, being broad between the ears, and very sharp at the muzzle. The face is white, and the eyes large. The back is considerably arched, and the fore-legs a good deal longer than the hinder ones. From the nose to the tail, the racoon measures about two feet. He is an active and lively animal, an excellent climber of trees, good-tempered, and easily tamed; but the habit of prying into every thing renders him extremely troublesome.

The fur of this animal is much valued, being next in fineness to that of the beaver. Gloves, and even the upper leather of shoes, are made from its skin, when dressed.

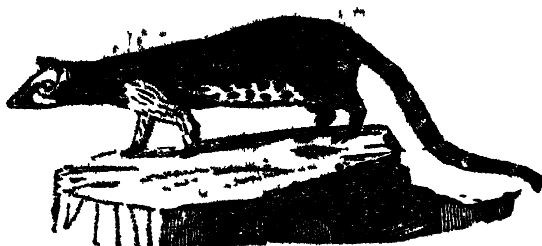
The racoon is a native of most parts of North America, but it has never yet been found in the old continents.

THE KANGAROO.

This curious animal was first discovered by the celebrated Captain Cook, in New Holland; and as it was the only quadruped found on the island by the first European inhabitants, they endeavoured to hunt it with greyhounds. The surprising jumps it took, however, quite puzzled the hunters. At first it was imagined that there was only one kind of Kangaroo but, up to the present time, about forty different sorts have been discovered, some of them less than a rabbit, and others larger than a sheep These animals live in herds,—the oldest one appearing to act as a kind of king over the rest.

The ears of the kangaroo are large, and almost constantly in motion; its upper lip is divided, like that of a hare. The fore-legs, or rather paws, are very short and weak, with five toes on each, ending in strong curved claws; the hind-legs, on the contrary, are very large and strong, but the feet have only four toes on each and much weaker claws The tail is long and tapering, but as it is very thick and strong near the body, it forms a kind of third hind-leg, and greatly assists the animal in making its astonishing springs, which are sometimes thirty feet in length, and from six to eight feet in height. When the kangaroo is attacked, it uses its tail as an instrument of defence, and it also scratches violently with his hind-feet. Its general position is upright, but it brings its fore-feet to the ground, when grazing It lives altogether on vegetable substances. The female kangaroo has a pouch just below her breasts, in which she carries her young ones, who sit there to suck

The kangaroo is easily tamed. The female has generally two young ones at a time, and they are a year old before they attain their full growth



THE GENET

Has a long body, short legs, a sharp snout, and a slender head. Its smooth soft fur is of an ash colour, marked with black stripes. On its neck it has a kind of mane, or longish hair, which extends in a black streak the whole length of the body. Its tail is marked with seven or eight rings, which are alternately black and white. From an orifice beneath its tail, it yields a kind of perfume, which smells faintly of musk. This little animal is meek and gentle, except when provoked, and is easily domesticated. In Constantinople it strays from house to house, like our cat, and keeps whatever house it is in perfectly free from mice and rats, which cannot endure its smell. This animal is found wild in various parts of Europe, and also at the Cape of Good Hope. Its fur is valuable as an article of commerce.



THE MARTEN.

This animal is generally eighteen inches long, with a tail of ten inches. It is the most beautiful of all the British beasts of prey. Its head is small and elegantly formed, the eyes lively, and the ears broad, rounded, and open; the back, sides, and tail are covered with a fine, thick, downy fur, intermixed with longer hair, and of a dark chesnut colour. The throat and breast are white. The claws are large, white and sharp, and well adapted for the purpose of climbing.

The Marten is the most pleasing of the weasel kind. It is very agile and graceful, and will attack animals of five times its size, and vanquish them.

Gesner tells us of a Marten that he had domesticated: it was quite playful, and went freely among the houses of the neighbourhood, returning home when it was hungry. A dog had been bred with it, and quite an attachment grew up between them. The marten would play with his companion, as cats are seen to play, lying on its back, and biting it without anger or injury. * * *

THE SABLE

Is about eighteen inches in length, being somewhat

longer than the polecat, in proportion to the thickness of its body. It is a native of Siberia, Kamschatka, and various islands which lie between that country and Japan, as also of Lapland. It burrows in holes, by the banks of rivers, and under the roots of trees. Its nest consists of moss, small twigs, and grass.

This animal does not appear to be so destructive as others of the tribe, its chief food in winter consisting of berries of different kinds: in summer, however, before these ripen, its necessities forces it to prey upon hares, weasels, ermines, and other small animals.

The female brings forth in the spring, and produces three or four at a birth.

The celebrated Gmellin mentions two of these which he had in a measure domesticated. He says that whenever they perceived a cat, they would raise themselves on their hind feet, and with their fore paws prepare to defend themselves. During the day and particularly after eating, they always slept, and frequently so soundly after a meal, that they required to be pricked, punched, and shaken before they would awaken; but that at night they were extremely active and lively.

The fur of the sable is dark brown, whitish on the head, and grey on the throat. Its chief quality consists in the hair turning with equal ease to either side. The darker the more valuable it is; and few skins are in greater estimation than that of this animal; one of these, measuring only about four inches in breadth, has been valued as high as fifteen pounds.

The time of hunting the sable, in Siberia, and other countries, is from November to February during which period the skins are in the highest perfection; those taken at any other time of the year are far inferior, on account of the irregularity of the length in the hair, and consequently bring lower prices.

Instances have occurred where the skins are of a snowy whiteness; but these are exceedingly rare, and sell as high curiosities.

The principal hunting of the sable is carried on by criminals banished to the snowy confines of Siberia; and in this employment they are frequently exposed to great privations. They are obliged to furnish each a certain number of skins, and for their encouragement are permitted to share among themselves whatever skins they procure above the allotted number. In the pursuit of sables, the hunters form themselves into small troops, under a leader of their own choosing; they penetrate far into the bosom of the mighty woods which cover this desert region, from whence they can only find their way back by marking the trees as they advance, and by missing which on their return they frequently perish from their stock of provisions being exhausted before they can reach the confines of the forest.

[illegible] is an arduous one; for, [illegible] the track of the animal on the [illegible] retreat they place the net over its hole, [illegible] times obliged [illegible] for days watching [illegible] out.



THE WEASEL.

The common Weasel is as frequent in temperate and in hot countries, as it is scarce in cold ones. Though

of the same species, it is in many respects different from the ermine, which is a native of the north.

The body of the weasel is seven inches in length, and the tail only two inches and a half. The height of the animal is little more than two inches and a half. Its usual colour is pale reddish brown on the back, sides and legs; the throat and belly are white: on each side of the head, under the corners of the mouth, there is a brown spot; its ears are short and round, and its eyes small, black and sparkling; its whiskers are very long; and its teeth are exceedingly sharp, so that it bites with great keenness.

Although the weasel is but a slender animal, yet it is more than a match for the largest rat, to which it is a mortal enemy, and frequently proves extremely useful in ridding stack-yards and barns of this destructive vermin, as well as mice; on which account its company is often courted by the farmers. It is a destructive enemy to pigeons, as it creeps into the holes of a dovecot in the evening, and surprises its prey while they are asleep. In short, from the peculiar formation of its body, there are few situations it is incapable of reaching.

The weasel is a lively and active little animal, common in all parts of Britain; and, being of a fierce and bold disposition, proves very destructive to farm-yards and warrens.

The following circumstance strongly illustrates the determined spirit of this little animal.

One fine summer evening as a Mr. Brown was returning from Gilmerton, near Edinburgh, by the Dalkeith Road, he observed on the high ground between him and Craigmillar Castle, a man who was leaping about, performing a number of antic gestures, more like those of a maniac, than those of a sane person. After contemplating this seemingly absurd conduct, Mr. Brown began to think it might be some unfortunate maniac, and, climbing over the walk,

made directly towards him ; and when he got pretty near, he perceived that the man had been attacked, and was defending himself against the assaults of a number of small animals, which he at first took for rats, but which turned out, on getting nearer, to be a colony of from fifteen to twenty weasels, which the unfortunate man was tearing from him, and endeavouring to keep from his throat. Mr. Brown joined in the combat, and having a stick, contrived to hit several and lay them lifeless. Seeing their numbers decreasing, the animals became intimidated, and speedily fled to the rock hard by, and disappeared in its fissures. The gentleman was nearly overcome with fatigue and exhaustion, having been engaged in the struggle, as far as he could guess, upwards of twenty minutes ; and but for the fortunate and timely assistance he received, he said he must have inevitably fallen a victim to their fury, as he found himself quickly losing strength from the violence of his exertions. His chief attention was turned to keeping them from his throat, to which they seemed instinctively to direct their course. He was a powerful man, otherwise he must have fallen under their ferocity. He had crushed two to death while tearing them from him. His hands were much bitten, and streaming with blood from the wounds.

The account he gave of the commencement of the affray was, that he was walking slowly through the park, when he happened to see a weasel ; he ran at it, and made several unsuccessful attempts to strike it with a small cane he had in his hand. On its getting near the rock, he got between it and the animal, and thus cut off his retreat ; the weasel squeaked aloud, when an instantaneous sortie was made by the whole colony, and the attack commenced.



THE FERRET.

THE Ferret is somewhat smaller than the polecat, to which it bears a close resemblance; the fur is yellowish and the eyes are red. The ferret is a native of Africa, and is only known to us in a domesticated state. It was first introduced from thence to Spain, and was used to reduce the number of rabbits which abounded in that country. It has subsequently been employed for the same purpose in this country. Its constitution, however, has never been completely brought to bear the cold of a northern climate, and requires much warmth and attention to preserve it alive. The ordinary method of keeping the ferret is in a box amongst wool, of which it forms for itself a comfortable bed. It is a nocturnal animal, and generally sleeps during the day and feeds at night. In a domesticated condition, ferrets are usually fed upon bread and milk, flesh being considered improper for the indolent lives they are taught to lead.

The ferret has such an instinctive antipathy to the rabbit, that it is said, if a dead one be presented to a young ferret which has never seen one before, it seizes upon it, and maintains its hold with great pertinacity, and will not quit its hold, but continues to

suck the blood till it is satiated. While using the ferret to drive rabbits from their burrows, they must be muzzled, otherwise they would fix on them, gorge themselves with their blood, and then fall asleep. Instances have been known of their freeing themselves from their muzzles, in which case they remained in the holes and could not be recovered but by digging for them, or, if too deep, smoking them out. Both these methods have been resorted to without effect, and the ferret has kept his retreat good for the summer, and lived by preying on the rabbits; but when winter sets in, they either perish from cold, or leave the hole, when they are easily retaken.

The ferret is also a great enemy to rats, and will not suffer one to remain alive where it is allowed to go in search of them. Although easily tamed they seldom evince any attachment, and are of a very irascible disposition. They emit a very disagreeable smell like all their congeners.

The following is a very remarkable instance of the ferocity of the ferret. A bargeman finding himself much incommoded by the repeated mischief done in his barge by rats, procured a ferret to destroy them. The ferret remaining away a considerable time, he thought it was devouring some rats that it had killed, and he went to sleep, but was awakened by the ferret, seizing him near his eyebrow. After endeavouring in vain to shake him off, he at length severed the body from the head with a knife, the head still sticking so fast as to be with difficulty removed.



THE OTTER.

This is a voracious animal; being more fond of fish than of flesh, it is seldom found but at the sides of lakes and rivers. It swims with even more facility than the beaver. All the feet of the otter have membranes; and it can hardly walk faster than it swims. The toes are furnished with strong, sharp nails; the eyes are large, brilliant, and so placed in his head, that the animal can see any object above it. Its fur is deep blackish brown, with two small light spots on each side of the nose, and another under the chin.

The Otter is a native of Britain, the whole Continent of Europe, and America. It fixes its habitation on the banks of rivers, where it burrows to some depth, its principal food being fish. Accurately considered, the otter cannot be pronounced an amphibious animal, although they live principally in the water, as we even find them drowned, when they happen to be entangled in a net. The burrow is constructed with great sagacity, entering generally under water, inclining upwards to the surface of the earth; and before reaching the top, it constructs several lodges, at different heights, to which it may retire in the event of floods. At the top of the approach to these cells, it opens a very small orifice for the admission of air; and the more effectually to conceal the opening, it is generally placed in the middle of a thick bush.

Otters can be easily tamed, and instructed to fish. A person who resided on the banks of the river Ness

procured a young otter, which he brought up and tamed. It would follow him wherever he chose; and if called on by its name, would immediately obey.—When apprehensive of danger from dogs, it sought the protection of its master, and would endeavour to spring into his arms for greater security. It was frequently employed in catching fish, and would sometimes take eight or ten salmon in a day. If not prevented, it always attempted to break the anal fin, which is next the tail; and as soon as one was taken away, it immediately dived for more. It was equally dexterous at the sea-fishing, and took great numbers of young cod and other fish. When tired, it would refuse to fish any longer, and was then rewarded with as much as it could devour. Having satisfied its appetite, it always coiled itself round, and fell asleep.

Another individual, who kept a tame otter, accustomed it to associate with his dogs, who soon became upon the most friendly terms. It would accompany him in his excursions along with his canine attendants. This person was in the practice of fishing in rivers with nets, on which occasions the otter formed a highly useful assistant, by going into the water, and driving trout and other fish towards the net.



THE PORCUPINE.

Although a native of the hottest climates of Africa

and India, the Porcupine lives and multiplies in colder countries, such as Persia, Spain and Italy.—They were not transported into Europe before the last century. They are found in Spain, but they are more common, in Italy, especially upon the Appenine mountains, and in the environs of Rome.

The porcupine, in its domestic state, feeds on fruit. chesnuts, and crumbs of bread; in its wild state it lives upon roots and wild grain; and when it enters a garden, it commits great havoc.

When the form, substance, and organization of the porcupine are considered, they are found to be true quills, to which feathers are only wanting, to make them resemble those of birds. They strike together with a noise, as the animal walks; and it easily erects them in the same manner as the peacock spreads the feathers of his tail.



THE HEDGEHOG.

This animal inhabits most of the temperate countries of Europe, frequenting hedgerows and quicksets. Their usual food is fruit, snails, insects, and flesh; they are also very fond of eggs, and will sometimes enter a hen-house, drive the hen from her nest, and devour the eggs. That they feed on flesh is denied by some naturalists, even to the present day, which we think the more surprising as Buffon speaks to this fact decidedly:—he says, speaking of tame ones, "they

eat caterpillars, beetles, and worms, and are also very fond of flesh, which they devour either boiled or raw." It has now been satisfactorily proved that they prey upon live animals, as Mr. Woodstock, surgeon, Bury, Lancashire, found one with a toad in his mouth, the head and one of the legs of which were consumed; and a labouring man (of the namé of Copland,) on the lands of Terraughty, Dumfriesshire, overheard a sound which led him to believe that a hare was in jeopardy from the attack of some unknown enemy; the squeaking however soon terminated; and, after searching carefully in all directions, he found a leveret lying dead by the side of a hedgehog. He had, however, coiled himself up, into the form of a ball, on hearing footsteps advancing. Copland was so enraged at the sight, and being convinced the poor leveret had been killed by the hedgehog, that he instantly dispatched him with the hatchet he had in his hand. The gamekeeper to the Earl of Galloway mentions having seen a hedgehog cross a road, carrying on his back six pheasants' eggs which he had pillaged from a nest hard by.

THE WILD BOAR.

The Wild Boar is the original from which all tame varieties of the Hog have sprung. It is not subject to the variety of the domestic races, but uniformly is of a brindled or dark grey, inclining to black. His snout is longer than that of the tame hog, and his ears are short, pricked, round, and black. He is armed with formidable tusks in each jaw: these serve him for the purpose of defence, as well as for digging his food, which chiefly consists of roots and vegetables.

The pursuit of the wild boar is a favourite pastime with the Germans. It is attended with great danger, as the boar's tusks render it not only formidable to the

dogs, but also to the hunters. The dogs chiefly used for this sport are of a strong, heavy kind. If young and inexperienced, their temerity often costs them their lives; the old ones merely keep the boar at bay, till the hunters come to their assistance, and despatch him with their spears.

The wild boar inhabits Europe, Asia, Africa, and America, but has not yet been discovered in New Holland.



THE DOMESTIC HOG.

This well-known quadruped is a descendant of the wild boar. His gait and proportions are clumsy, the head is heavy, the neck short. He goes with his head down, and eyes directed forward. When left at liberty, the Hog always resorts to humid, marshy, and muddy places, where he digs for roots and worms, he also feeds on frogs, and will eat the offal of markets, and even putrid flesh, and not unfrequently chews bones. His usual pace is a kind of trot. He sometimes exhibits marks of great ferocity. His intelligence is very limited, but he is easily domesticated, and becomes attached to his feeders.

BIRDS.



We come now to a beautiful and loquacious race of animals, essentially different from those we have been describing, namely, the Birds; which embellish every forest, amuse us in our country walks, and exclude solitude from the most shady retirement.

One obvious mark of distinction between birds and quadrupeds is, that instead of hair, the former are covered with feathers, and these appear to be nourished and kept in order in a different manner from the hair of the latter. To prevent the feathers being injured by exposure to the air, the bird is furnished with a gland, situated on its rump, containing a proper supply of oil, which it presses out with its beak, and occasionally anoints its feathers. In water-fowl this oil is so plentiful that it even imparts a degree of rancidity to the flesh, and their coat of feathers is rendered by it completely waterproof.

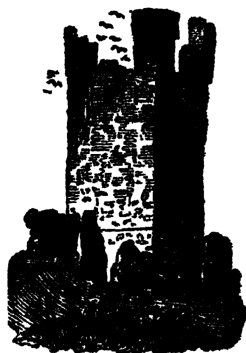
The wings of birds are remarkably strong. The flap of a swan's wing has been known to break a man's leg, and a similar blow from an eagle will kill a man.

The sense of seeing in birds is very acute; and they do not appear to be deficient in hearing, though they have no external ears, but only two small orifices or ear-holes. The scent of some species is exquisitely delicate.

The voice of birds is much larger, in proportion to their size, than that of other animals, for, in fact, the bellowing of an ox is not louder than the scream of a peacock.

The legs, the wings, the bones, and every part of the body, are much lighter, firmer, and more compact, in birds than in other animals. Their lungs are extended all over the cavity of the bird.

Carnivorous birds, like carnivorous quadrupeds, have only one stomach, and that admirably adapted for digestion. Granivorous birds have, in addition to their crop or stomach, where their food is moistened or swelled; a gizzard, which is a very hard muscle, and which they generally fill with small stones, where the food is afterwards ground, in order to its complete digestion.





THE GOLDEN EAGLE

Is the largest and noblest of all those birds that have received the name of Eagle. The length of the female, (which among birds of prey is generally larger than the males,) is three feet and a half; the extent of the wings eight and a half; it weighs from sixteen to eighteen pounds; but the male seldom weighs more than twelve pounds. Its bill is three inches long, and of a deep blue; and the eye of a very brilliant hazel colour. The sight and sense of smelling are very acute. The head and neck are covered with narrow sharp pointed feathers, of a deep brown colour, bordered with tawny; but those on the crown of the head of very old birds turn grey. The whole body, above as well as below, is of a dark brown; and the feathers of the back are finely clouded with a deeper shade of the same. The legs are yellow, short, and very strong, being three inches in circumference, and

feathered to the very feet. The toes are covered with large scales, and armed with formidable claws.

Of all birds the eagle flies highest; he has also the quickest eye, and always pursues his prey by sight. He finds no difficulty, from the strength of his wings, in carrying away geese, hares, lambs and kids; and often destroys fawns and calves, to drink their blood. Infants, even, when left unattended, have been destroyed by these rapacious birds.

The nest of the eagle is usually built in the most inaccessible cliff of the rock, and often shielded from the weather by some jutting crag that hangs over it. But sometimes it is wholly exposed to the winds, as well sideways as above; for the nest is flat, though built with great labour. It is said that the same nest serves the eagle during life; and indeed the pains bestowed in forming it seems to argue as much. One of these was found in the Peak of Derbyshire; which Willoughby thus describes. "It was made of great sticks resting with one end on the edge of a rock, the other on two birch trees. Upon these was a layer of rushes, and over them a layer of heath, and upon the heath rushes again; upon which lay one young one, and an addle egg; and by them a lamb, a hare, and three heath-poults. The nest was about two yards square, and had no hollow in it. The young eagle was of the shape of a goshawk, of almost the weight of a goose, rough footed, or feathered down to the foot, having a white ring about the tail." Such is the place where the female eagle deposits her eggs; which seldom exceed two at a time in the larger species, and not above three in the smallest. It is said that she hatches them for thirty days; for frequently, even of this small number of eggs a part is addled; and it is extremely rare to find three eaglets in the same nest.

In the county of Kerry, a peasant is said once to have formed the resolution of plundering an eagle's

nest, built upon a small island in the beautiful lake of Killarney. He accordingly swam to the island while the parents were away, and, after robbing the nest of the young, he was preparing to swim back, with the eaglets tied in a string, but while he was yet up to the chin in the water, the old eagles returned, and, missing their family, fell upon the invader with such fury, that, in spite of all his resistance, they dispatched him with their beaks and talons.



THE SEA EAGLE.

This bird is a native of Britain, and inhabits high cliffs overhanging the sea, whence it pounces upon fish, seals, or birds, and makes them its prey. The inside of the tail, in old birds, is white, but in young ones, brown. It is seldom found longer than twenty-seven inches from the beak to the end of the tail



THE VULTURE

Is deficient in all the respectable qualities of the eagle, and only rivals it in size, in strength, and in rapacity.

The neck of the vulture is without feathers, and only covered with a slight down, or a few scattered hairs. Their eyes are more prominent than those of the eagle; the claws are shorter. Their attitude is not so upright as that of the eagle, and their flight more heavy and difficult.

The nature of all vultures is cruel, unclean, and indolent. Their sense of smelling however is extremely acute. They seem adapted, inwardly, not only for being carnivorous, but to eat whatever kind of grain comes in their way.

This bird, which is common in many parts of Europe, is altogether unknown in England. The sloth, the filth, and wretchedness of these birds almost exceeds belief. In the Brazils, where they are very abundant, when they alight upon a carcass which they have liberty to tear at their ease, they so gorge themselves that they are unable to fly, and are utterly helpless;

but they soon get rid of their burden, for they have a method of vomiting what they have eaten, and then fly off with facility.

These birds usually lay two eggs, and produce but once a year. They make their nests in inaccessible rocks, and in places so remote that it is extremely rare to find them.



THE ROUGH-LEGGED BUZZARD.

This is the most common of the hawk kind in England, and is a most rapacious bird. It is of a sluggish, indolent nature, and will sit perched on the same bough for the greater part of the day, totally indifferent, to all appearance, to the allurements of food, or pleasure.

The back and wings are brown, the belly yellowish, spotted with brown, and the tail is a light brown, tanned with black.

The following anecdote, related by Buffon, will show that the buzzard may be so far tamed as to be rendered a faithful domestic. A buzzard which had been caught in a snare, was brought to a gentleman, who undertook to tame it. It was at first wild and

ferocious, but he succeeded by leaving it to fast, and constraining it to come and eat out of his hand. By pursuing this plan, he brought it to be very familiar; and, after having shut it up about six weeks, he began to allow it a little liberty, taking the precaution, however, to tie both pinions of its wings. In this condition it walked out into his garden, and returned when called to be fed; after some time, thinking he might trust to its fidelity, he removed the ligatures, and fastened a small bell above its talon, and also attached to its breast a bit of copper with his name engraved on it. He then gave it entire liberty, which it soon abused; for it took wing and flew into the forest of Belesme. The bird was given up for lost; but four hours afterwards, it rushed into the gentleman's hall, pursued by five other buzzards, which had constrained it to seek its former asylum. After this adventure it preserved its fidelity, coming every night to sleep under the window. It soon became familiar, attended constantly at dinner, sat on a corner of the table, and often caressed its master with its head and bill, emitting a weak, sharp cry, which, however, it sometimes softened. It had a singular propensity of seizing from the head, and flying away with, the red caps of the peasants; and so alert was it in whipping them off, that they found their heads bare without knowing what was become of their caps; it even treated the wigs of the old men in the same way, hiding its booty in the tallest trees.



THE FALCON

Is a predaceous bird, of which there are several species.

The Ger-falcon is the largest, approaching nearly to the magnitude of the eagle. The top of its head is flat, and of an ash-colour, with a strong, thick, short, and blue beak. The feathers of the back and wings are marked with blue spots, in the shape of a heart.— He is a courageous and fierce bird, nor fears even the eagle himself; but he flies chiefly at the stork, the heron, and the crane. He is mostly found in the colder regions of the north, but loses neither his strength nor his courage when brought into the milder climates. He is the most esteemed for falconry.

The Falcon, properly so called, is the next in magnitude and fame. There are some varieties in this bird, but there seem to be only two that claim distinction—the Falcon-gentil and the Peregrine-falcon; both are much less than the ger-falcon, and somewhat about the size of a raven. They differ but slightly, and perhaps only from the different states they are in when brought into captivity. The falcon-gentil moults in March, and often sooner: the peregrine-

falcon does not moult till the middle of August.—The peregrine is stronger in the shoulder, has a larger eye, and yet more sunk in the head; his beak is stronger, his legs longer, and the toes better divided.

Falconry, which is now so much disused amongst us, was the principal amusement of our ancestors. A person of rank scarcely stirred out without his hawk on his hand; and in old paintings it is the criterion of nobility. Harold, afterwards King of England, once went on an important embassy into Normandy: he is drawn, in an old bas-relief, as embarking with a bird on his hand, and a dog under his arm. This diversion was in such high esteem all over Europe, that Frederick, one of the Emperors of Germany, wrote a treatise upon hawking.

The manner of training the falcon is by putting straps upon his legs, which are called *jesses*, to which there is fastened a ring with the owner's name, so that, in case he should be lost, the finder may know where to bring him back. To these also are added little bells, which serve to mark the place where he is, if lost in the chase. He is always carried on the fist, and obliged to keep without sleeping. If he be stubborn, or attempt to bite, his head is plunged into water. Thus, by hunger, watching, and fatigue, he is constrained to submit to having his head covered by a hood or cowl, which hides his eyes. This troublesome employment continues often for three days and nights without ceasing. It rarely happens but at the end of this, his necessities, and the privation of light, make him lose all idea of liberty, and soften his natural wildness. His master judges of his being tamed when he permits his head to be covered without resistance, and when uncovered he seizes the meat before him contentedly. The repetition of these lessons by degrees ensures success. His wants being the chief principle of his dependence, it is endeavoured to increase his appetite by giving him little balls of

flannel, which he greedily swallows. Having thus excited the appetite, care is taken to satisfy it; and thus gratitude attaches the bird to him who but just before had been his tormenter.

When the first lessons have succeeded, and the bird shows signs of docility, he is carried out upon some green; his head is uncovered; and, by flattering him with food at different times, he is taught to jump on the fist, and to continue there. When confirmed in this habit, it is then thought time to make him acquainted with the lure. The lure is only a thing stuffed like the bird the falcon is designed to pursue, such as a heron, a pigeon, or a quail, and on this lure they always take care to give him his food. It is quite necessary that the bird should not only be acquainted with this, but fond of it, and delicate in his food when shown it. When the falcon has flown upon this, and tasted the first morsel, some falconers then take it away; but by this there is danger of daunting the bird; and the surest method is, when he flies to seize it, to let him feed at large, and this recompenses his docility. The use of this lure is to flatter him back when he has flown in the air, which he sometimes fails to do; and it is always requisite to assist it by the voice and the signs of the master. When these lessons have been long repeated, it is necessary to study the character of the bird; to speak frequently to him if he be inattentive to the voice; to stint in his food such as do not come readily to the lure; to keep waking him if he be not sufficiently familiar; and to cover him frequently with the hood if he fears darkness. When the familiarity and the docility of the bird are sufficiently confirmed on the green, he is carried into the open fields, but still kept fast by a string, which is about twenty yards long. He is then uncovered as before, and the falconer, calling him at some paces distance, shows him the lure. When he flies upon it, he is permitted to take a large piece of

the food which is tied to it. Next day the lure is shown him at a greater distance, till he comes at last to fly to it at the utmost length of his string. He is then to be shown the game itself alive, but disabled or tame, which he is designed to pursue. After having seized this several times with his string, he is then left at liberty, and carried into the field for the purposes of pursuing that which is wild. At that he flies with avidity, and when he has seized it or killed it, he is brought back by the voice and the lure.

By this method of instruction, a falcon may be taught to fly at any game whatsoever; but falconers have chiefly confined their pursuit only to such animals as yield them profit by capture or pleasure in the pursuit. The hare, the partridge, and the quail repay the trouble of taking them; but the most delightful sport is the falcon's pursuit of the heron, the kite, and the wood-lark. Instead of flying directly forward when they see themselves threatened by the approach of the hawk, they immediately take to the skies. They fly almost perpendicularly upward, while their pursuer keeps pace with their flight, and tries to rise above them. Thus both diminish, by degrees, from the gazing spectator below, till they are quite lost in the clouds; but they are soon seen descending, struggling together, and using every effort on both sides—the one of rapacious insult, the other of desperate defence. The unequal combat is soon at an end; the falcon comes off victorious, and the other killed, or disabled, is made a prey either to the bird or the sportsman.



THE SPARROW HAWK

Abounds throughout Europe. It is in length about twelve inches; the legs are slender, and the tail long; its bill is black, and the legs yellow. Above, it is of a deep grey colour; beneath, white, with a reddish tinge, and streaks of brown on the throat and other parts The wings, when closed, scarce reach to the middle of the tail; the thighs are strong and fleshy, the legs long, slender and yellow; the toes long, and talons black. When wild, they feed upon birds, and possess a boldness and courage above their size; but in a domestic state do not refuse raw flesh and mice, and are easily trained to hunt quails and partridges.



THE BUTCHER BIRD.

The Great Butcher-bird, or Shrike, is about as large as a thrush; its bill is large, an inch long, and hooked at the end. This mark, together with its carnivorous appetite, ranks it among the rapacious birds; at the same time its legs and feet, which are slender, and its toes, formed somewhat differently from the former, would seem to make it the shade between such birds as live wholly upon flesh, and such as live chiefly upon insects and grain.

Indeed, its habits seem to correspond with its conformation, as it is found to live as well upon flesh as insects, and thus to partake, in some measure of a double nature. But its appetite for flesh is most prevalent, and it never takes up with the former when it can obtain the latter. This bird, therefore, leads a life of combat and opposition. As from its size it does not much terrify the smaller birds of the forest, so it frequently meets with birds willing to try its strength, and it never declines the engagement.

It is wonderful to see with what intrepidity this little creature goes to war with the pie, the crow, and the kestril, all above four times bigger than itself, and that often prey upon flesh in the same manner. It not only fights upon the defensive, but often comes to the attack, and always with advantage—particularly when the male and female unite to protect their young, and to drive away the more powerful birds of rapine. At that season they do not wait the approach of their invader; it is sufficient that they see him preparing for the assault at a distance. It is then that they sally forth with loud cries, wound him on every side, and drive him off with such fury, that he seldom ventures to return to the charge. In these kinds of disputes they generally come off with the victory, though it sometimes happens that they fall to the ground with the bird they have so fiercely fixed upon, and ends with the destruction of the assailant as well as the defender.

During summer they remain among the mountainous parts of the country; but in winter they descend into the plains, and nearer human habitations. The larger kind make their nest on the highest trees, while the lesser build in bushes in the fields and hedge-rows. They both lay about six eggs of a white colour, but encircled at the bigger end with a ring of brownish red. The nest on the outside is composed of white moss, interwoven with long grass, within it is well lined with wool, and is usually fixed among the forking branches of a tree. The female feeds her young with caterpillars and other insects while very young; but soon after accustoms them to flesh, which the male procures with surprising industry.

A peculiarity belonging to the birds of this kind is, that they do not, like most other birds, expel the young ones from the nest, as soon as they can provide for themselves, but the whole brood live together in one family.

The Little Butcher bird is about the size of a lark, with a large head. It has black hairs or bristles, about the nostrils; the back and upper side of the wings are of a rusty colour; the throat and breast white, spotted with red.



THE OWL.

All birds of the owl kind have one common mark by which they are distinguished from others; their eyes, like those of tigers and cats, are formed for seeing better in the dusk than in the broad glare of sunshine. The pupil, in fact, is capable of opening very wide, or shutting very close; and, by contracting it, the brighter light of the day, which would act powerfully upon the sensibility of the eye, is excluded; while, by dilating the pupil, it takes in more faint rays of the night, and thereby is enabled to spy its prey, and catch it with greater facility in the dark.

But though owls are dazzled by too bright a daylight, yet they do not see best in the darkest nights, as some have been apt to imagine.

The nights when the moon shines are the times of

their most successful plunder; for when it is wholly dark, they are less qualified for seeing and pursuing their prey: except, therefore, by moonlight, they contract the hours of their chace, and if they come out at the approach of dusk in the evening, they return before it is totally dark, and then rise by twilight the next morning to pursue their game, and to return in like manner before broad daylight.

Yet the faculty of seeing by night, or of being entirely dazzled by day, is not alike in every species of these nocturnal birds. The common white, or barn owl, for instance, sees with such acuteness in the dark, that it perceives the smallest mouse that peeps from its hole; on the contrary, the brown horned owl is often seen to prowl along the hedges by day, like the sparrow-hawk, and sometimes with great success.

The birds of the owl kind may be divided into two sorts; those that have horns, and those without.

THE HORNED OWL

Is so called on account of two long tufts, composed of six feathers, (which it can erect or depress at pleasure.) that stand upon each side of the head, over the ears, and give it a horned appearance. The eyes are large and transparent, encircled with an orange-coloured iris; the ears are large and deep, and the beak black; the breast, belly, and thighs are of a dull yellow, marked with brown streaks; and the tail is marked with dusky red bars. It is common in the north and west of England and in Wales.

There is a small kind of the Horned Owl, which is not much larger than a blackbird.

The usual place where the great horned owl breeds is in the cavern of a rock, the hollow of a tree, or the turret of some ruined castle. Its nest is near three feet in diameter, and composed of sticks, bound



together by the fibrous roots of trees, and lined with leaves on the inside. It lays about three eggs, which are larger than those of a hen, and of a colour somewhat resembling the bird itself. The young ones are very voracious, and the parents not less expert in satisfying the calls of hunger.

The smaller horned owl never makes a nest for itself, but always takes up with the old nest of some other bird, which it has forced to abandon. It lays four or five eggs; and the young are all white at first, but change colour in about a fortnight.

Those without horns are the howlet, or *aluco*, which is the largest of this kind, and has dusky plumes and black eyes.

The white owl, commonly called the barn owl, is the best known of any. It may be considered as almost domestic, as it inhabits barns and outbuildings the greatest part of the year, and is extremely useful

in clearing them of vermin. At the season of incubation, however, it takes up its residence in the woods. It seldom hoots, but snores and hisses in a most violent manner, and often screams tremendously.

The brown owl is rather less than the former, with brown plumage, and a brown beak.

The Ivy Owl, commonly called the screech owl, has had ascribed to it, by superstition, the power of foreboding death and calamity by its cries. The ancients believed likewise that it sucked the blood of young children; and hence it has been dreaded and detested in all ages, probably without any just cause.

Its screams are truly alarming; and as it frequently approaches windows where there is a light in the room, a circumstance very common in apartments of the sick, at all hours of the night, its voice is equally appalling to the superstitious invalid and his friends.





THE KESTREL.

The Kestrel and the Merlin are the least of the Falcon tribe, and yet display a degree of courage that render them truly formidable, The merlin differs from the falcon, and all other rapacious kinds, in the male and female being of equal size. They are about the size of the blackbird, and in the days of falconry were considered the lady's hawk.

THE PARROT.

The distinguishing characters of the Parrot family are, that the bill is hooked; that the upper mandible is furnished with a moveable cere, that the nostrils are situated in the base of the beak, that the tongue is fleshy, obtuse, and entire, and that the feet are formed for climbing. In their native woods these birds live together in flocks, and generally breed in hollow trees, where they make a round hole for the accommodation of their young, but they do not take the trouble of lining it within. They lay two or



three eggs at a time, about the size of a pigeon's, which are marked with little specks.

The facility with which the parrot is taught to speak, and the great number of sentences it is capable of repeating, are equally surprising. We are assured by a grave writer, that one of these was taught to repeat the Apostle's Creed. There are many amusing anecdotes of the loquacity of these birds. A parrot belonging to a distiller who had suffered pretty severely from an informer that lived opposite to him, was taught to pronounce the ninth commandment, "Thou shalt not bear false witness against thy neighbour," with a very clear and articulate voice; and being generally placed in its cage opposite the informer's house, it amused the whole neighbourhood with its persevering exhortation. We are told of a parrot belonging to Henry the Seventh, which had learned many words from persons passing by to the river Thames. One day, sporting on its perch, the poor bird fell into the water, exclaiming at the same time, "A boat! twenty pounds for a boat!" A waterman happening to be near the spot, immediately took it up, and restored it to the king; insisting, as the bird was a favourite, that he should have the promised reward. His majesty agreed to leave it to the parrot's own decision; upon which the bird cried out, "Give the knave a groat!"

The parrot, though commonly domesticated in Europe, will not breed there. The climate is too cold for its warm constitution. In teaching the parrot to speak, it at first obstinately resists all instruction, but seems to be won by perseverance; makes a few attempts to imitate the first sounds; and when it has acquired the first word distinctly, the rest of its lessons are easy enough.



THE MACCAW

Is the largest and most splendidly-coloured bird of the Parrot tribe. Its beak is exceedingly strong; and its tail is longer, in proportion, that of any of the parrots. The voice of this bird is fierce, and yet tremulous: it appears to utter the word "Arara," and from this cry it derives its name in its native country.

When tame, it eats almost every article of human food; and it is very fond of beef, fried fish, pastry,

and sugar It can crack nuts with its beak, and pick the kernels out with its claws. It does not chew the soft fruits, but sucks them by pressing its tongue against the upper part of the beak; and bread, pastry, &c., it bruises by pressing the tip of the lower upon the hollow part of the upper mandible.



THE RAVEN.

The raven is the largest of the crow kind, and is distinguished not only by its size, but also by its bill, which is more hooked. It is in length upwards of two feet, and the breadth of its wings when expanded more than four. It is of a fine glossy black colour, except on the belly, where it is dusky. In a state of nature the raven is a most voracious bird. It preys equally on the living and the dead, and after having sufficiently supplied its own appetite, it flies to communicate tidings of the spoil to its companions. Its scent is most exquisite. The raven generally builds a nest in trees, in the most unfrequented places, and lays five or six eggs at a time. The raven has been known to live near a hundred years.

THE JACKDAW

Is black like the raven, but by no means so large, being about the size of a pigeon. His head is large in proportion to his body, which argues him ingenious and crafty. He builds in old castles, steeples, and high rocks, the female laying five or six eggs in a season. When tame he is very docile and loquacious, of which we have the following amusing anecdote. When Augustus Cæsar was returning in triumph to Rome from his victory over Mark Antony, a man among the crowd had a jackdaw on his hand which flapped his wings and said "God save the Emperor, the victorious Cæsar!" Delighted to hear himself so saluted, Augustus gave the owner a handsome sum for the bird. The owner refused to share the money with an associate who had assisted him in training his jackdaw. This man, in order to be avenged, brought to the emperor another bird which they had in training, and which called out "God save the victorious Mark Antony!" Augustus laughed at the joke, and ordered the confederates to divide the money. After his liberality in this instance, he had a number of speaking jackdaws brought to him. One poor fellow, a shoemaker, took great pains to teach a bird which he had got for the purpose, hoping to make his fortune by it. The bird, who had no such prospects, was but a poor scholar; and his master, in the midst of his lessons, often ejaculated in despair, "Well, I have lost my labour!" Having at last, however, with much pains, completed his education, the daw was brought out one day to salute Augustus, and repeated his "God save the emperor!" with great distinctness. "Tut!" said Augustus, "I have too many courtiers of your kind." "Well, I have lost my labour!"

cried the daw, who at that moment appeared to remember his master's ejaculation. The emperor was so much amused with the answer, that he bought the feathered wit for double the sum expected.



THE MAGPIE

Is one of the most eloquent birds of the crow kind. Its colours black, green, white, and purple, with the rich variations of the tail, entitle it justly to our admiration. It is ambitious and affected; vain, restless, and quarrelsome, and seems to take a delight in doing mischief. No food seems to come amiss to the magpie. It lives not only on insects, but also on such animals of the feathered race as it is able to overcome. It has even the insolence to tease the largest quadrupeds when it is sure that it can escape punishment. It often perches itself on the back of a sheep or an ox, picking out the insects that lodge there, chattering and tormenting the animal all the while. In a tame state it will hide the remainder of its food after it has finished its repast. It is sometimes taught to speak, but its articulations are too shrill and sharp to be a perfect imitation of the human voice.



THE JAY.

Of British birds the Jay is the most elegant. On the forehead is a tuft of white feathers streaked with black, which he can erect at will, and the motions of which are indicative of his feelings. His back and breast are of a delicate cinnamon colour, and his wings are beautifully checkered with black, white, and blue. His voice is harsh, grating, and unpleasant. Upon seeing the sportsman he gives, by his cries, the alarm of danger, and thereby defeats his aim. The jay builds in woods, and makes an artless nest of sticks, fibres, and tender twigs; the female lays five or six eggs, of a greyish ash colour, mixed with green, and faintly spotted with brown. Like the magpie, the jay is talkative and ready to imitate sounds. One of them has been known to mimic so exactly the noise made by the action of a saw, as to induce passengers to believe that a carpenter was at work in the house. Another had learned, when cattle approached, to set a cur dog on them, by whistling and calling him by name. The poor jay, however, at last paid dearly for his mischievous tricks. Having set his quadruped

associate upon a cow which was big with calf, the cow was much hurt; he was complained of as a nuisance, and his owner was obliged to destroy him.

THE THRUSH.

The Thrush tribe includes the song thrush, the fieldfare, the blackbird, and various other species. Its general character consists in a straightish bill, which bends towards the point, and is slightly notched near the end of the upper mandible; oval nostrils; mostly naked; the tongue a little jagged at the end; a few slender hairs at the corner of the mouth; and the middle toe joined to the outer one as far as the first joint. The song thrush is about eleven inches in length; it begins to sing very early, often on the turn of the year, in blowing, showery weather, whence in some places it is called the storm cock, and its song is heard during nine months. One kind, which is larger than the fieldfare, while the real song thrush is smaller, is called the missle thrush, from the berries of the mistletoe bough being its food. This bird is found in various parts of Europe, and is said to be migratory in some places, but continues in England the whole year, and frequently has two broods. It builds in woods or orchards, and not seldom in thick hedges near the ground. Fine moss interwoven with grass or hay forms the outside of the nest, and the inside is curiously plastered with cow dung. The female lays five or six eggs, of deep blue, marked with black spots.

THE BLACKBIRD

Is a beautiful singing-bird, whistling all the spring and summer time, with a note which, when heard at a distance, is more pleasing than that of any other songster of the grove.



THE GOLDFINCH.

This bird, which is too well known to need a particular description, is universally esteemed, both for the melody of its note, and the beauty of its colours. It is of a gentle nature, soon becomes reconciled to captivity, and may be easily taught a variety of entertaining tricks, there being few birds of equal docility and intelligence. When in solitude, it takes great delight in viewing its own image in a mirror. It is sometimes called a Thistlefinch, for its fondness for the seeds of that plant. The female generally builds in fruit-trees, and lays five eggs of a white colour, speckled and marked with a reddish brown. The nest is admirably constructed,—the outside consisting of moss interwoven with other materials, and the inside being lined with wool, feathers, and down.

THE BULLFINCH.

The head, wings, and tail of this bird are black, and the breast and belly red; but in the female the under parts are brownish. It is common in England, and in

most parts of Europe. It builds its nest in bushes, and the young birds make their appearance about the end of May. It is chiefly remarkable for the ease with which it is taught to sing and whistle different tunes.

THE NIGHTINGALE.

This most charming bird, so celebrated for its singing, comes to England about the beginning of April, and leaves it in August. It is entirely unknown in Scotland, Ireland, or North Wales, for it only visits the more southern parts of the kingdom. They frequent thick hedges and low coppices, and generally keep in the middle of the bush, so that they are rarely seen. They begin their song in the evening, and often continue the whole night. If undisturbed, they will perch for weeks together on the same tree.

The Nightingale prepares to construct its nest about the beginning of May; it is formed of dry leaves, straw, and moss, and, being eagerly sought after, is concealed with great sagacity, so that but few of them are discovered by the boys engaged in bird-nesting expeditions. it is only to be found at the bottom of hedges, where the bushes are thickest and best concealed. While the female continues sitting, the male, at a good distance, but always within hearing, cheers her with his music, and often gives her warning of approaching danger, by a short interruption of his song. The female lays only four or five eggs, of which but a part comes to maturity in our cold climate.

THE CANARY-BIRD,

As its name imports, is a native of the Canary Islands. It is not ascertained at what period Canary Birds were

first introduced into Europe; but it is well known that, about a century since, they bore very high prices in various European countries, and were kept exclusively for the amusement of the great. Of late years they have been exceedingly multiplied, and have become depreciated in value in a corresponding proportion.—In their native islands they are of a dusky grey colour: in England they are of different colours, as commonly happens with domesticated birds. But it is not for their colour that they are chiefly esteemed, being more valued for their singing. Like all the rest of the Finch tribe, they have a high, piercing pipe, and continue their song in the same breath, without intermission, for a considerable time, raising it gradually higher and higher, with much variety. The clearness, brilliancy, and rapid changes of its notes, have rendered the canary bird, next to the nightingale, the most favourite songster.

Canary birds occasionally breed throughout the whole course of the year, but particularly in the months of June and August. It is said that those produced between the French and English birds are the best adapted for breeding. They should be put together in a small cage, about the end of March. At first they will not be disposed to agree well with each other, but will quarrel rather roughly; after a short time, however, their animosity subsides, and they become perfectly reconciled. The time commonly necessary for building the nest is two or three days: the hen generally lays five eggs, which are hatched in fourteen days. These birds breed so abundantly, that it is not an unusual occurrence for the female to be on the point of hatching a second brood, before the former ones are sufficiently strong to quit the nest. After the young birds are hatched, the old ones require to be furnished with a sufficiency of soft food every day; they should also have an

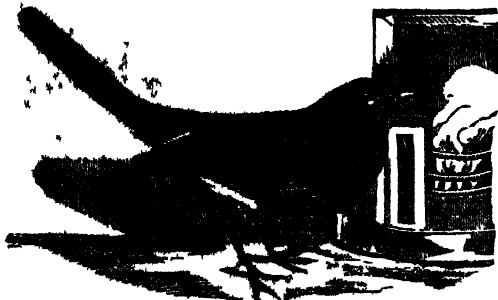
abundance of fresh vegetables, such as cabbage, lettuce, and chickweed. With this variety of provision the old ones take the greatest care to bring up their young. A mixed breed is sometimes produced between the canary-bird and the linnet, or goldfinch; the breed from the canary and goldfinch very much resembles the former, particularly in regard to its singing.

The following curious anecdote of a canary-bird is related by Dr. Darwin:—

"On observing one of these birds at the house of a gentleman, near Tutbury, in Derbyshire, I was told it always fainted away when its cage was cleaned, and I desired to behold the experiment. The cage being taken from the ceiling, and the bottom drawn out, the bird began to tremble, and turned quite white about the root of the bill: he then opened his mouth, as if for breath, and respired quick; stood up straighter on his perch, hung his wings, spread his tail, closed his eyes, and appeared quite stiff for half an hour: till at length, with much trembling and deep respiration, he came gradually to himself."

A few years ago a Frenchman exhibited, in London, twenty-four canary-birds, many of which, he said, were from eighteen to twenty-five years of age. Some of these balanced themselves, head downwards, on their shoulders, having their legs and tails in the air. One of them, taking a slender stick in its claws, passed its head between its shoulders, and suffered itself to be turned round, as if in the act of being roasted. Another balanced itself, and was swung backward and forward on a kind of slack rope. A third was dressed in military uniform, having a cap on its head, wearing a sword and pouch, and carrying a firelock in one claw: after sitting upright for some time, this bird, at the word of command, freed itself from its military dress, and flew away to the cage. A fourth suffered itself to be shot at, and falling down as

if dead, was put into a little wheel-barrow, and wheeled away by one of its comrades!



THE REDBREAST

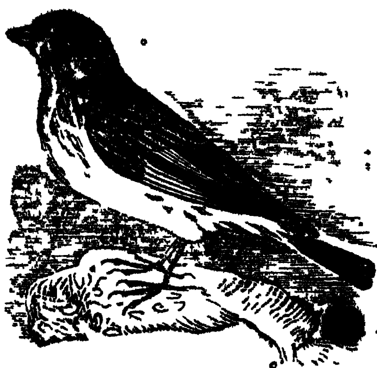
Is the most familiar of all birds. It feeds on insects, and eats crumbs of bread when its usual food fails, and while other birds are ready to perish with cold and hunger, seeks the shelter of a house or cottage, in which it is generally a welcome guest. The song of the redbreast is particularly soft and sweet, and the more to be valued, as it is continued during the winter. It breeds variously in different places: in some parts, its nest is observed in the crevices of mossy banks, or at the bottom of hawthorn hedges; in other places, on the contrary, it selects the thickest coverts to deposit in, and endeavours to secure it by concealing it among a covering of leaves.

There is an old proverb, that two redbreasts will not feed on the same tree: it is certain that the redbreast is a very quarrelsome bird, and that he does not live in much harmony with those of his own kind and sex. The male may be distinguished from the female by the colour of his legs, which are darker.



THE WREN.

THIS Lilliputian songster is a native of every part of Europe. It weighs only three drachms, and is but four inches in length, from the point of the bill to the end of the tail. It is admired for the loudness of its note, compared with the little body from whence it issues. It will carol forth its strains, with unconcern, during a fall of snow. Even when confined in a cage, it has sometimes been known to sing as strong as when in its native fields, and with equal freedom and mellowness of song. It commonly creeps about hedges or trees, in the vicinity of farm-yards, and sings very late in the evening, though not, like the nightingale, after the landscape is enveloped in darkness. The female lays from ten to eighteen eggs. which are very small, white, and sprinkled with red spots. The Wren constructs its nest in a very curious manner.—Unlike other birds, it does not begin first at the bottom. If the nest be placed against a barn, it commences the fabric at the top; if against a tree, it at the outset traces the outline on the bark, and closes the sides and top in succession.



THE BLACK-CAP

Is a very small bird, of the warbling tribe, weighing about half an ounce. The top of the head is black. whence he takes his name; the neck ash-coloured. the whole back a dark green; the wings of a dusky colour, with green edges; the tail nearly the same; the lower part of the neck and throat, and the upper part of the breast, are of a pale ash-colour; the lower part of the belly white, tinctured with yellow.

The Black-cap visits us about the middle of April, and retires in September; it frequents gardens, and builds its nest near the ground. The female lays five eggs, of a pale reddish brown, with dark spots. The black-cap sings sweetly, and so like the nightingale, that in Norfolk it is called the mock nightingale. It has usually a full, sweet, deep, loud, and wild pipe, but the strain is of short continuance, and its motions irregular; but when it sits quietly, and earnestly engages in song, it pours forth very sweet and gentle modulations, superior, perhaps, to any of our warblers,

with the exception of the nightingale; and it distends its throat exceedingly, while in the act of singing.

It is a remarkable fact that the black-cap, although a migratory bird, will continue to build its nest in the same spot for several years. The following account, respecting this bird, is given by Mr. Rennie:—

"There has been in a garden, adjacent to ours, the nest of a black-cap for a succession of years, and broods have been successively reared there, without any observable increase in the population of the species. Yet this bird, which is little bigger than a wren, weighing only half an ounce, has to traverse annually the South of Europe, and probably a great portion of the North of Africa, exposed, of course, to numerous accidents, as well as to occasional scarcity of its appropriate food. From the regular annual restoration, however, of this nest at the same spot, it is obvious that one, if not both of the black-caps, must have been wont to perform this extensive migration to and from Africa as safely as the more swift-winged swallow. During the spring of 1831, the black-caps, which we suppose to be the same birds, from their keeping to the same place of nesting, were more than usually late in arriving; for in another garden, about a mile off, there were young in the hereditary nest of black-caps before our little neighbours made their appearance from the South. When they did arrive, their attention was attracted by the rather unusual circumstance of hearing the loud song of a rival in the vicinity of their premises. This was a cock black-cap, which we had purchased, the preceding autumn, in the bird-market, at Paris, and which was daily hung out in his cage, to enjoy the fresh air and the sunshine, within a gun-shot of their usual place of nestling. The wild birds did not appear to like the little stranger at all; and the cock kept flying around the cage, alternately exhibiting curiosity, fear, anger, defiance, and triumphant exultation. Sometimes he

would flit from branch to branch of the nearest tree, silently peeping into the cage with the utmost eagerness; all at once he would dart off to a great distance, as if afraid that he was going to be similarly imprisoned; or, getting the better of his fears, he would perch on a conspicuous bough, and snap his bill, calling *check, check*, seemingly in a great passion; again he would sing his loudest notes by way of challenge, or perhaps meaning to express his independence and superiority. Our cage-bird, meanwhile, was by no means a passive spectator of all this; and never failed, on the appearance of the other, to give voice to his best song, and to endeavour to out-sing him, since he could not get at him to engage in personal conflict.

"This sort of altercation continued for more than a week; but the wild bird became gradually less eager to pry into the cage, or to take any other notice of the cage-bird, and at length ceased altogether to approach it—his attention being now wholly occupied in attending to his mate and aiding her in building their nest. It is worthy of remark, that though, on their first appearance, they resorted to the garden where the nest had hitherto been built, they finally fixed their residence in another garden at some distance; induced, no doubt, by the vicinity of our cage-bird to their former haunts. The distance of the place to which they removed is such that we can readily hear the song of the cock, and our bird is no less eager to answer, and to endeavour to out-sing him than at first; while it is worthy of remark that the wild bird seems no longer interested in such rivalry, and sings as if his only concern was to please himself and his mate."



THE LINNET

Is about the size of the goldfinch, and compensates, by a still more melodious voice, for the want of variety in its plumage, which, except in the red-breasted species, is nearly all of one colour. Its musical talents are, like those of many other birds, repaid by depriving it of its liberty; for it is kept in cages on account of its singing.

The Red-breasted Linnet, or Redpole, generally builds on the sea-coast, in this country; and on the Continent it builds in vineyards; but that livery of nature, the crimson scarf, which grows so beautifully under its neck, disappears as soon as it is domesticated. It is one of the first birds whose appearance announces the spring.

The Green Linnet is rather larger than the house-sparrow. Its head and back are of a yellowish green, the edges of the feathers greyish; the rump and breast more yellow. The plumage of the female is not so vivid, inclining to brown. Its song is not very good; but in confinement it becomes tame and docile, and will catch the notes of other birds.

THE LARK.

NOTHING can be more gratifying than to hear the Lark warbling upon the wing; raising its note as it soars aloft, and descending with a swell, as it comes from the clouds, yet sinking by degrees, as it approaches its nest—the spot where its affections are centred—the spot that has excited all its joy, and called forth those harmonious strains. The female builds her nest upon the ground, beneath some turf that serves to screen it from observation; she lays four or five eggs of a dusky hue; and when her little family come forth, she may be seen fluttering over their heads, directing their motions, anticipating their wants, and sedulously guarding them from danger. The common food of the young lark is worms and insects, but after they are grown up, they live chiefly on seeds, herbage, and most other vegetable substances. The song of the lark commences early in the spring, and continues throughout the summer, but is chiefly heard in the morning and evening. The lark ascends almost perpendicularly, and by successive springs, into the air, and hovers there at such a vast height as often to be invisible, though its notes are clearly heard.

The great attachment which the female bears to her own species, even when not nestling, is remarkable In alluding to it, Buffon says:

"In the month of May, a young hen bird was brought to me, which was not able to feed without assistance. I caused her to be reared, and she was hardly fledged, when I received, from another place, a nest of three or four unfledged larks. She took a strong liking to these new comers, which were but little younger than herself; she tended them night and day, cherished them beneath her wings, and fed them with her bill. Nothing could interrupt her

tender offices. If the young ones were torn from her, she flew to them as soon as they were liberated, and would not think of effecting her own escape, which she might have done a hundred times. Her affection grew upon her; she neglected food and drink. She at length required the same support as her adopted offspring, and expired at last, consumed with maternal solicitude. None of the young ones long survived her. They died one after another; so essential were her cares, which were equally tender and judicious."



THE COLE-TIT

Is a bird of the woods; its length is four and a half inches, and its weight about half an ounce. It may often be heard singing in plantations of fir and pine, even in the heat of the day. It builds its nest, near the ground, of moss, lined with hair. The eggs are sometimes ten in number, white mottled with reddish brown. It feeds on insects and their larvæ.

THE WHITE WAGTAILS

HAVE a mode of life peculiar to themselves, and readily approach man and his habitations, being fond of nestling in our neighbourhood." Spread throughout Europe, they also inhabit Africa and India, and are even seen in Siberia, Kamschatka, Iceland, and the Feroe islands; forming in autumn numerous flocks, which extend themselves through the fields, and withdraw, on the approach of evening, into osiers and willows that border canals and rivers, where they perform a noisy concert until night-fall. They depart in October, and often at this period they are heard passing in the air, sometimes at a very considerable height, and clamouring to each other incessantly. They do not, however, all migrate at this season, for some, though a very few, are occasionally to be met with. They then abound in Egypt, where the people, says Maillet, dry them in the sand, to preserve them for the purpose of food. They are also to be seen in Senegal at the same season; but, like the swallows and quails, they disappear from thence in spring to return to our climates, where they arrive at the end of March.

These birds possess the most astonishing gaiety and lightness. They appear in flying to rest upon their long outspread tail, as upon a broad oar which assists them to balance, spring, and perform a variety of evolutions in the air. During such sports, they are frequently heard to utter a little cry, lively, clear, and redoubled; they have also a soft and delicate song, which, in autumn, is reduced nearly to a murmur. The motion of their tail in flying is horizontal, but on the ground its position is perpendicular. By no means distrustful, and less fearful of man than of the birds of prey, they are not even much frightened by

fire-arms; for, on being aimed at, they do not fly far, but frequently return and place themselves within a short distance of the fowler. They give into all kinds of snares which are laid for them quite easily; but if taken when adult, they cannot be preserved in cages, but will die in four-and-twenty hours. For this purpose, they must be taken from the nest, and reared like the nightingales. The species which frequent Britain are three in number.

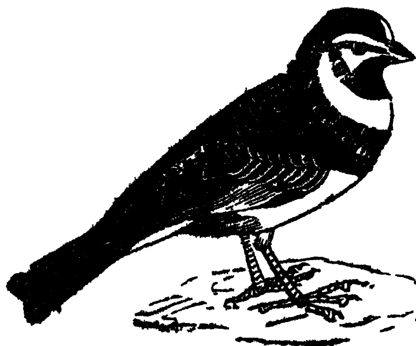
THE SWALLOW.

The Swallow tribes have bills which are short, small at the point, and slightly curved. The tongue is short, broad, and cloven, the nostrils are open, and the mouth wide. Except in one species, the wings are long, and the tail is forked. They have short, slender legs, and the toes are placed three before and one behind, with the exception of four species, in which the toes are all placed forward. They have a peculiar twittering voice, fly with extreme rapidity, scarcely ever walk, and perform all their functions while on the wing, or sitting. Their plumage is glossed with a rich purple. To the martins, and other small birds, the swallow announces the approach of birds of prey. By a shrill, alarming note, he summons round him all his own species, and the martins, as soon as the hawk appears. The whole band then pursue and strike their enemy, till they expel him from the place, darting down on his back, and rising in a perpendicular line with perfect security. The swallow will also strike at cats while they are climbing the roofs of houses.

THE MARTIN.

This bird is inferior in size to the swallow, and its tail is less forked. The plumage, however, is nearly the

same; the upper part of the body, wings, and tail being black, glossed with purple, and the under parts white. They are much less agile than the chimney-swallow, but have a placid, easy motion. The Martin sometimes build against the sides of cliffs that over-hang the sea; but more frequently under the eaves, in the corners of windows, or under cornices. The nest of these birds is built with great industry and art; it is formed with mud moistened with water, and kept firm by long grass and fibres; it is lined with goose feathers, which are ever the warmest and the neatest. The martin covers its nest at top, and has a door to enter at.



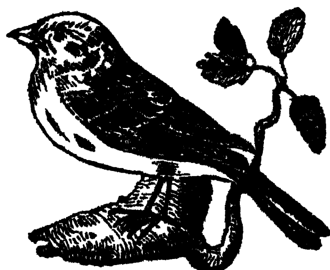
THE CERL BUNTING.

The Buntings are distinguished by a short, straight conical beak; the upper part is narrow, and sinks into the lower, and there is a hard knob on the inside of the upper, to break and grind seeds.

The Common Bunting is about the size of a sparrow. It is of a pale olive brown. They collect in

flocks in the winter, and are often seen on the bare branch of some tree, in immense numbers.

Amongst this class of birds may be reckoned the Cerl Bunting, the Yellowhammer, the Reed Bunting, the Tawny Bunting, the Snow Bunting, the Mountain Finch, and the Ortolan.



THE YELLOWHAMMER, OR YELLOW BUNTING.

This bird is somewhat larger than the sparrow. Its head is of a greenish yellow, spotted with brown; the throat and belly are yellow; the breast and sides, under the wings, mingled with red. It has a pretty note, not unlike that of the linnet. It builds its nest on the ground, near some bush: the female lays five or six eggs.

This bird feeds on various sorts of insects, and all kinds of seeds. It is to be seen in every lane, and on every hedge throughout the country, flitting before the traveller. and fluttering about the bushes on the side of the road. Happily for him, we have not yet acquired the taste of the natives of Italy, where the flesh of the yellowhammer is esteemed delicious eating.



THE WHEAT-EAR

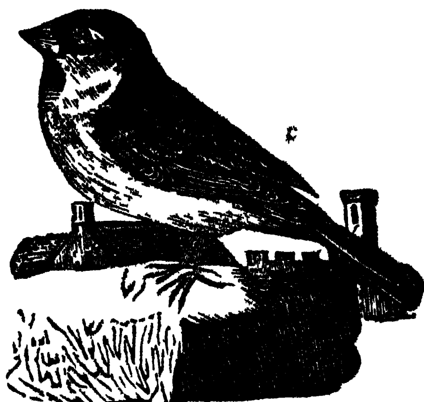
Is more celebrated for the delicacy of its flesh than for the excellence of its melody. The numbers ensnared in the neighbourhood of Eastbourne, are said to amount annually to about 1800 dozen.

Of the foreign birds, the thorn-tailed warbler is one of the most remarkable. It is a native of Terra del Fuego, and about the size of a sparrow. The upper parts of the body are reddish brown, mottled with yellow, and the breast and belly are white.

THE STARLING

Is a very imitative bird, and, when tamed, may be taught to articulate distinctly, and to whistle tunes with much precision. In its wild state even, it may frequently be heard endeavouring to imitate the cries of different birds and animals. Its own peculiar notes are a shrill whistle, and chattering kind of noise. It

is found throughout Europe; and the same species appear to be common in Nepaul, and other parts of Asia. The flight of the Starling is smooth and even, without any saltatory motion, like the sparrow; and it walks with ease, like the lark, or wagtail, seldom or never using the hopping action of the thrush. These birds are often seen in company with rooks, pigeons, and jackdaws, and will attach themselves for a considerable time to a body of lapwings.



THE SPARROW

Is a most familiar and well-known bird, constantly fluttering round our habitations, streets, fields, barn-yards, and gardens; it weighs about an ounce and a half, and is upwards of six inches in length. The chin, throat, and gorget, are black; on the upper part of the body it is a brownish-black, and on the under, a greyish-brown; an orange-brown band passes above the eyes and over the ears. It builds its nest under the eaves of houses, or in the holes of walls,

formed of hay and straw, lined with feathers, and so placed as to be screened from the sun, wind, and rain.

An anecdote of the sparrows' affection for their young is thus pleasingly related by Mr. Smellie:— "When a boy, I carried off a nest of young sparrows, about a mile from my place of residence. After the nest was completely moved, and while I was marching home with them in triumph, I perceived, with some degree of astonishment, both the parents following me at some distance, and observing my motions, in perfect silence. A thought then struck me, that they might follow me home, and feed the young according to their usual manner. When just entering the door, I held up the nest, and made the young ones utter the cry which is expressive of the desire of food. I immediately put the nest and the young in the corner of a wire cage, and placed it outside of a window. I chose a situation in a room where I could perceive all that should happen, without being myself seen. The young birds soon cried for food. In a short time both parents, having their bills filled with small caterpillars, came to the cage, and after chatting a little, as we should do with a friend, through the lattice of a prison, gave a small worm to each. This parental intercourse continued regularly for some time, till the young ones were completely fledged, and had acquired a considerable degree of strength. I then took one of the strongest of them, and placed him on the outside of the cage, in order to observe the conduct of the parents, after one of their offspring was emancipated. In a few minutes, both parents arrived, as usual, loaded with food. They no sooner perceived that one of their children had escaped from prison, than they fluttered about, and made a thousand noisy demonstrations of joy, both with their wings and their voices. These tumultuous expressions of unexpected happiness, at last, gave place to a more calm and soothing conversation. By their voices, and their movements, it was

evident that they earnestly entreated him to follow them, and to fly from his present dangerous state. He seemed to be impatient to obey their mandates; but by his gestures, and the feeble sounds he uttered, he plainly expressed that he was afraid to try an exertion he had never before attempted. They, however, incessantly repeated their solicitations: by flying, alternately, from the cage to a neighbouring chimney-top, they endeavoured to show him how easily the journey was to be accomplished. He, at last, committed himself to the air, and alighted in safety. On his arrival, another scene of clamorous and active joy was exhibited. Next day, I repeated the same experiment, by exposing another of the young ones on the top of the cage. I observed the same conduct with the remainder of the brood, which consisted of four. I need hardly add, that not one, either parents or children, ever again revisited the execrated cage."



THE HUMMING BIRD.

There are six or seven different kinds of this delightful little bird; they vary in size from that of a small wren, down to that of an humble bee. A European could scarcely have imagined a bird existing

so small, which, however, is provided with a bill, feathers, wings, intestines, exactly similar to that of the largest kind. A bird, not larger than the tip of the finger, would probably be supposed the creature of imagination only, were it not found in immense flocks, and as frequently as butterflies with us in a summer's day, flying about the fields of America, and passing from flower to flower to extract their sweets with its puny bill.

The smallest of these birds does not exceed a hazle-nut in size; the feathers on its tail and wings are black: but those on its body and under the wings are of a greenish brown, with a beautiful red cast or gloss, which no production of art has as yet imitated. On its head it has a small crest of a green colour at bottom, but at the top exhibiting all the splendour and beauty of a gilded surface; and which sparkles in the sun like a star in the middle of its forehead. The bill, which is not longer than a small pin, is of a black colour, straight and slender. The larger humming-bird is about half the size of a common wren, and without a crest upon its head; but in compensation for this deficiency, it is covered from the throat half-way down to the belly with changeable crimson-coloured feathers, which, when exposed to various lights, change to a variety of colours like a brilliant stone. Both the humming-birds have very diminutive heads, with small round eyes as black as jet.

It can scarcely be imagined, how much these tiny creatures increase the high finishing and beauty of a delightful landscape. The various kinds of humming-birds, as soon as the sun is risen, are seen fluttering about the flowers, but never settling on them. The motion of their wings is so rapid, that it is extremely difficult to ascertain the colour of them, except by their glittering. They never repose themselves, but are incessantly in action, visiting flower after flower in rapid succession, and extracting their honey as if with

a kiss. The [illegible] with which they are provided for this purpose, is a forked tongue that enters the cup of the flower, and at once extracts its natured tribute; it is upon this alone that they make their subsistence. A humming sound results from the extreme rapidity with which their wings move in flying, and from this circumstance they derive their name.

Not the least curious part of the history of the humming-bird is furnished by the description of its nest, which is most commonly extended in the air at the extremity of the twigs of an orange, a pomegranate, or a citron tree, sometimes even in houses, if they meet with a small twig well adapted for the purpose. The female builds the nest, while the male goes in search of the materials, consisting of cotton, fine moss, and the fibres of different vegetables With these a nest is constructed of nearly the size of a hen's egg when divided in two; it is admirably formed and lined on the inside with cotton They lay two eggs at a time, but seldom more, these are about the size of small peas, but of a snowy whiteness, except occasionally where there is a yellow spot. The male and female sit upon the eggs alternately; but on the whole the female continues the longest time; she seldom quits the nest except for a few minutes in the morning and evening, at which time the dew is on the flowers, and their honey is in perfection. It is during these short intervals that the male takes her place in sitting on the eggs; for, as they are so very small, an exposure to the weather even for the shortest time would be very liable to injure their contents, the surface exposed being so great in comparison to their bulk.

The time of sitting continues twelve days, at the termination of which period the young brood appears, in size near resembling a blue-bottle fly. When first

hatched they are not covered with any thing, but by degrees they gain a coat of down ; and, at last, feathers are produced, but less beautiful than those of the old ones.

Father Labat's companion in the mission to America found the nest of a humming-bird, in a shed that was near the dwelling-house, and took it in at a time when the young ones were about fifteen or twenty days old ; he then placed them in a cage at his chamber-window, to be amused by their sportive flutterings, but he was soon surprised to see the old ones, that came and regularly feed their brood every hour of the day. By these means they themselves soon grew so tame, that they seldom quitted the chamber ; and, without any constraint, came to live with their young ones. All four have frequently come to perch upon their master's hand, chirping as if they had been entirely at liberty. He fed them with a very fine clear paste, made of wine, biscuit, and sugar. They thrust their tongues into this paste till they were satisfied, and then fluttered and chirped about the room. He says, "I never beheld any thing more agreeable than this lovely little family, that had taken possession of my companion's chamber, and they flew out and in just as they thought proper. In that manner they lived with him for about six months ; but at a time when he expected to see a new colony formed, he unfortunately forgot to tie up their cage to the ceiling at night, to preserve them from the rats, and he found they were devoured in the morning."

The humming-bird is seen fluttering about on the continent of America during the whole course of the year ; for their food, which is the honey of flowers is never deficient in the warm climates which they inhabit. But in the islands known by the name of the Antilles, it happens differently, when the winter season comes on, the little creatures retire, and, as is generally believed, continue in a state of torpidity

during the inclement season. The humming-birds are never known to disappear at Surinam and Jamacia, for at both of these places there is a constant succession of flowers.

Doubts have been entertained whether these little birds have a continued note of singing. All travellers concur in stating, that in addition to the humming noise produced by the fluttering of their wings, they have a little chirrup; but it has also been asserted that they have a most pleasing melody in their voices, rather of a melancholy nature, but small and proportioned to their organs. It is also considered as very likely that they have different notes in various situations; and as there are some that pass the winter in a torpid state, it is not improbable that there may be some with pleasing voices, though the rest may in general be mute, and produce no other sound than the humming of their wings.

The beautiful plumage of the humming-bird was formerly in frequent use among the Indians for the purpose of adorning their belts and head-dresses. They are caught by the children in the fields, upon rings covered with bird-lime; they go to the place where the birds are flying, twirling their rings in the air, and so allure them either by the colour or the sound, that the incautious little bird comes to rest on the ring, and is seized. They are then immediately killed, gutted, and hung up to dry. A more careful manner of preserving them consists in drying them in a stove, by which method there is less probability of injuring the plumage. Their pretty feathers once formed the ornaments of the principal chiefs of savage nations; but they are now taken more with a view to selling them as curiosities to the Europeans, than for ornamenting their own persons.

THE BIRD OF PARADISE.

THERE are about eight different species of these birds, but that which is best known is the greater Bird of Paradise, which appears to the eye to be nearly the size of a pigeon, though in reality the body is not much larger than that of a thrush. The tail, which is about six inches, is as long as the body; the wings are large, compared with the bird's other dimensions; the head, the throat, and the neck, are of a pale gold colour, the base of the bill is surrounded by black feathers as is, also, the side of the head and throat; soft as velvet, and changeable like those of a mallard; the hinder part of the head is of a shining green mixed with gold; the body and wings are chiefly covered with beautiful brown, purple, and gold feathers; the uppermost part of the tail feathers are of a pale yellow, and those under them white and somewhat longer. But what chiefly excites curiosity are two long naked feathers, which spring from the upper part of the rump, above the tail, and which are usually about two feet long, these are bearded only at the beginning and end, the whole shaft, for about one foot nine inches, being of a deep black, while the feathered extremity is of a changeable colour.

This bird is a native of the Molucco Islands, but found in great numbers in that of Aro. The inhabitants are not insensible of the pleasure they afford, and give them the name of God's bird, as being superior to all that he has made. They live in large flocks, and at night generally perch upon the same tree. They are called by some the swallow of Ternate, from their rapid flight, and from their being continually on the wing in pursuit of insects, their usual prey

THE CUCKOO.

The note of this bird is universally known; but its history is involved in much obscurity. Its bill and claws are smaller than those of other rapacious fowls. It has round and prominent nostrils, which alone distinguish it from all other birds. The lower part of the body is of a yellowish colour, with black transverse lines under the throat, and on the top of the breast; the head, the upper part of the back, and the wings, are marked with tawny and black transparent stripes; and on the top of the head are a few white spots. The legs are feathered down to the very feet.

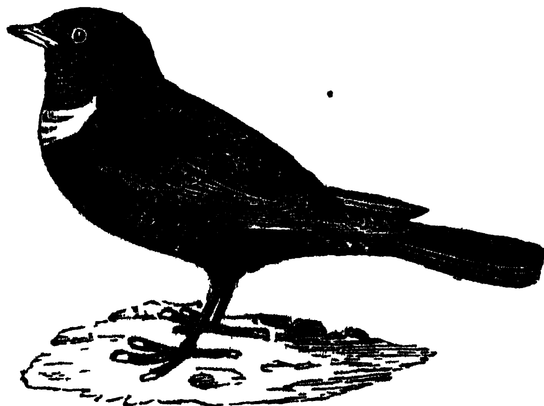
The arrival of this bird is considered as the harbinger of spring. Its note is so uniform, that its name, in every language, is derived from it. It never makes a nest of its own, neither here nor in other countries, but deposits its eggs in the nest of other birds, to whom it leaves the care of hatching them, and rearing the young. A water-wagtail, or even a hedge-sparrow, frequently officiates as nurse to the young cuckoos; and if they happen to be hatched at the same time with its own offspring, they quickly force out the latter from the nest.

When the young cuckoo is sufficiently fledged, it soon quits its foster-parent, and pursues its natural propensities. What becomes of the family in winter is as little known as the retreat of the swallow. Some suppose that they live in hollow trees, and others that they pass into warmer climates. Which of the opinions is correct, is very uncertain, as there are no facts related on either side, which can be positively relied on

The most probable opinion on this subject is, that as

woodcocks and quails shift their habitations in winter, so also does the cuckoo; but to what country it retires, or whether it has ever been seen on its journey, are questions that we are wholly incapable of resolving.

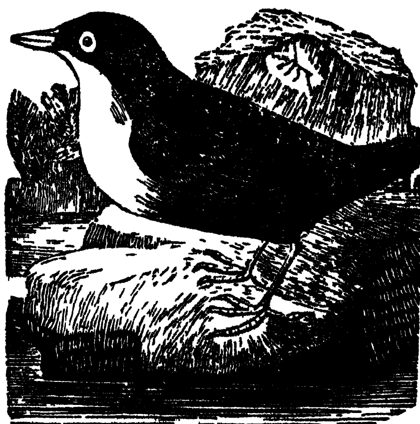
An author tells us a curious story of some logs of wood being put into an oven to heat, when a cuckoo, being revived in this extraordinary manner, began to utter its note, to the great astonishment of those who were present.



THE RING OUZEL

MAKES periodical visits to our coasts. It arrives in the spring, and immediately resorts to the mountainous districts of England and Scotland, preferring those of the most stony and barren nature. In these situations it breeds and rears its young. The nest is usually placed on some steep bank, supported by a projecting stunted bush, or a tuft of grass or heath; sometimes also on the cleft or on the shelf of a rock.

In form and texture it resembles the blackbird, and its eggs are very similar, both in size and colour. Its song is confined to a few clear notes, not unlike those of the missel-thrush. As autumn approaches it quits its mountainous haunts, journeying southwards; and about the latter part of October, leaves this country for warmer climates, where it passes the winter. Though common in Sweden, France, and Germany, it is very rare in Holland.

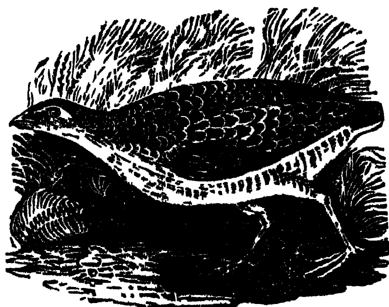


THE WATER-OUZEL

Is nearly as large as the blackbird. It is an English bird, and is found in most parts of the country. It feeds upon aquatic insects, and small fish, such as sand-eels and minnows. The head and upper side of the neck are a sort of umber-colour, and sometimes black, with a shade of red; the back and coverings of the wings are mixed with ash-colour and black, the throat and breast being perfectly white.

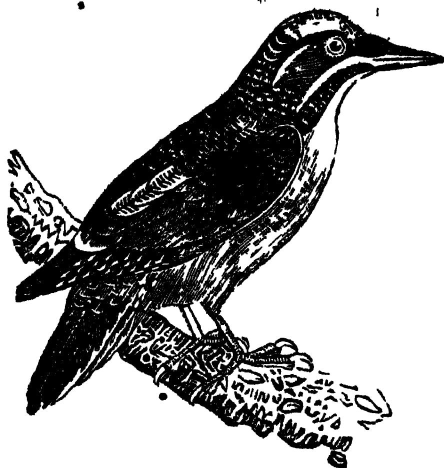
It is asserted, by some, that the Water-ouzel can

walk along the bottom of a lake, with perfect ease; but this is far from being the case,—as, though it often plunges into the water, it appears to tumble about in a very extraordinary manner, with its head downwards. Even on land this bird walks awkwardly, as its feet are best adapted for the slippery stones on which it passes the greater part of its time, watching for insects, which it picks up on the verge of the water. When disturbed, it makes a chirping noise, and flirts up its tail. Its song in spring is said to be very pretty. It it supposed to be a migratory bird.



THE LAND-RAIL, OR CORN-CRAIK,

Is a bird of passage, and visits England only in the summer. The Corn-craik frequents meadows and corn-fields for slugs and worms. Its voice is loud and shrill, and is heard at a considerable distance; sometimes sounding as if close at hand, and the next note as if it were afar of, and in a contrary direction. It runs with great speed.



THE GREEN WOODPECKER

Is about the size of a jay; the throat, breast, and belly are of a pale greenish colour; and the back, neck, and covert feathers of the wings are green. The tongue is its instrument for killing and procuring its food. This is round, ending in a stiff, sharp, bony tip, dentated on both sides, like the beard of an arrow; which it can dart out three or four inches from the bill, and draw in again at pleasure. Its prey is thus transfixed, and drawn into the bill, which when swallowed, the dart is again launched at fresh game. Nothing has employed the attention of the curious in this part of anatomy, more than the contrivance by which the tongue of this bird performs its functions with such great celerity. The tongue is drawn back into the bill by the help of two small round cartilages, fastened into the fore-mentioned bony tip, and running along the length of the tongue. These cartilages, from the root of the tongue, take a

circuit beyond the ears; and being reflected backwards to the crown of the head, make a large bow. The muscular spongy flesh of the tongue incloses these cartilages, like a sheath; and is so made, that it may be extended or contracted like a worm. The cartilages indeed have muscles accompanying them along their whole length backwards. But there is still another contrivance; for there is a broad muscle joining the cartilages to the bones of the skull, which, by contracting or dilating, forces the cartilages forward through the tongue, and then forces the tongue and all through the bill, to be employed for the animal's preservation in piercing its prey

As the Woodpecker is obliged to make holes in trees to procure food, so it is also to make cavities still larger to form its nest and to lay in. This is performed, as usual, with the bill. Those that are curious, may often hear the noise of the bill making its way in large woods and forests. The woodpecker chooses, for this purpose, trees that are decayed, or wood that is soft, like beech, elm, and poplar. In these it can make holes as exactly round as a mathematician could with compasses One of these holes the bird generally chooses for its own use, to nestle and bring up its young in; but as they are easily made, it is delicate in its choice, and often makes twenty before one is found fit to give entire satisfaction. It takes no care to line its nest with feathers or straw; its eggs are deposited in the hole, without any thing to keep them warm, except the heat of the parent's body. Their number is generally five or six; always white, oblong, and of a middle size. When the young are excluded, and before they leave the nest, they are adorned with a scarlet plumage under the throat.

There are many kinds of the woodpecker, varying in size, colour, and appearance, but all agree in the principal characteristics.



THE KINGFISHER.

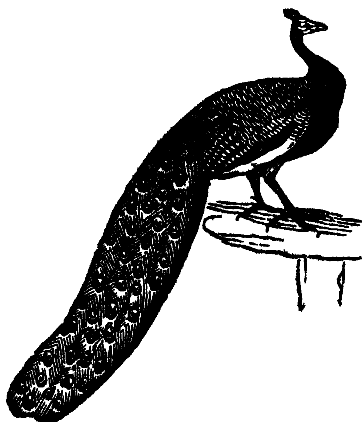
THE Kingfisher is not much larger than a swallow; its shape is clumsy; the legs and the bill disproportionably long, it is two inches from the base to the tip; the upper chap black, and the lower yellow; but the colours of this bird atone for its inelegant form, the crown of the head and the coverts of the wings are of a deep blackish grey, spotted with bright azure, the back and tail are of the brightest sky-blue; the whole under side of the body is orange-coloured; a broad mark of the same passes from the bill beyond the eyes; beyond that is a large white spot, the tail is short, and consists of twelve feathers of a rich deep blue; the feet are of a reddish yellow, and the three joints of the outmost toe adhere to the middle one, while the inner toe adheres only by one.

From the diminutive size, the slender short legs, and the beautiful colours of this bird, no person would be led to suppose it one of the most rapacious of the birds that skims the deep. Yet it is always on the wing, and feeds on fish, which it takes in surprising quantities. It frequents the banks of rivers, and takes its prey after the manner of the osprey, balancing

itself at a distance above the water for a considerable space, then darting into the deep, and seizing the fish with certainty. While it remains suspended in the air, in a bright day, the plumage exhibits a beautiful variety of dazzling and brilliant colours.

It lays from five to nine eggs, and builds its nest on the river side, in a hole which it burrows out itself, or in the deserted holes of a rat. During the season of incubation, the male brings the female such large supplies of fish, that she is generally fatter at that time than any other The young are hatched at the end of twenty days, but do not acquire the beauty of their plumage in perfection till after the first moulting season.

Of this bird there are about thirty-six species, foreign and domestic.



THE PEACOCK.

The Peacock was first introduced into this country from the East Indies. Its favourite food is barley, but

it does not reject insects and tender plants; and so capricious is its appetite, that it is not easily restrained from committing depredations on the dwelling, the farm, or the garden. Thus the beauty of its plumage, which is too well known to require description, is but a poor recompense for the mischief it occasions. The pea-hen seldom lays more than five or six eggs in this climate before she sits. This bird lives about twenty years, and not till its third year has it that beautiful plumage that adorns its tail.



THE TURKEY.

This bird was sent from Mexico to Spain at the beginning of the sixteenth century. and from Spain to England in 1524.

We learn, from the elaborate work of Prince Charles Bonaparte, on "American Birds," that the native country of the wild Turkey extends from the north western territory of the United States to the Isthmus of Panama; south of which it is not to be found In Canada, and the now densely-peopled parts of the United States, this bird was formerly very abundant, but the progress and aggressions of man have compelled them to seek refuge in the remotest interior.

It is not necessary to be particular in describing the appearance of a bird so well known in its tame state. The difference consists chiefly in the superior size and beauty of plumage in the wild turkey; for, under the care of man, this bird has greatly degenerated, not only in Europe and Asia, but in its native country. When full grown, the wild male turkey is nearly four feet in length, and nearly five in extent, (from wing to wing,) and presents in its plumage a rich assortment of colours, brown predominating, which might be vainly sought in the domesticated bird.

Wild turkeys do not confine themselves to any particular food, but eat maize, all sorts of berries, fruits, grasses, and beetles; even tadpoles, young frogs, and lizards, are occasionally found in their crops; but where the pecan nut is plenty, they prefer that fruit to any other kind of nourishment. Their more general predilection, however, is for the acorn, on which they rapidly fatten. When an unusually profuse crop of acorns is produced in a particular section of country, great numbers of turkeys are enticed from their ordinary haunts in the surrounding districts. About the beginning of October, while the mast still remains on the trees, they assemble in flocks, and direct their course to the rich bottom lands. At this season they are observed in great numbers on the Ohio and Mississippi. The time of this irruption is known to the Indians by the name of the *Turkey month.*

The males, usually termed *gobblers*, associate in parties numbering from ten to one hundred, and seek their food apart from the females; while the latter either move about singly with their young, then nearly two-thirds grown, or—in company with other females and their families—form troops, sometimes consisting of seventy or eighty. They are all intent on avoiding the old males, who, whenever opportunity offers, attack and destroy the young by repeated blows on the skull. All parties, however,

travel in the same direction, and on foot, unless they are compelled to seek their individual safety by flying from the dog of the hunter, or their progress is impeded by a large stream. When about to cross a river, they select the highest eminences, that their flight may be more certain; and here they sometimes remain for a day or more, as if for the purpose of consultation, or to be duly prepared for so hazardous a voyage. During this time the males gobble obstreperously, and strut with extraordinary importance, as if they would animate their companions, and inspire them with hardihood. The females and young also assume much of the pompous air of the males, the former spreading their tails, and moving silently around. At length the assembled multitude mount to the tops of the highest trees, whence, at a signal note from a leader, the whole together wing their way towards the opposite shore. Immediately after these birds have succeeded in crossing a river, they for some time ramble about without any apparent unanimity of purpose, and a great many are destroyed by the hunters, though they are then least valuable.

When the turkeys have arrived in the land of abundance, they disperse in small flocks, who devour all the mast as they advance: this occurs about the middle of November. It has been observed, that, after these long journeys, the turkeys become so familiar as to venture on the plantations, and even approach so near the farm-houses as to enter the stables and corn-cribs in search of food. In this way they pass the autumn and part of the winter. During this season, great numbers are killed by the inhabitants, who preserve them in a frozen state, for the purpose of transport to a distant market.



THE PHEASANT.

NEXT to the peacock, the Pheasant is the most beautiful of birds, as well for the vivid colour of its plumes, as for their delightful mixture and varieties. The iris of the eye is yellow, and the eyes themselves are surrounded by a scarlet colour, sprinkled with small specks of black. In some, the top of the head is of a shining blue, and the head itself, as well as the upper part of the neck, appears sometimes blue, and sometimes green. The feathers of the breast, the shoulders, the middle of the back, and the sides under the wings, have a blackish ground, with edges tinged of an opposite colour. The tail, from the middle feathers to the root, is about eighteen inches long; the legs, the feet, and the toes, are of the colour of horn. The male is much more beautiful than the female. In the woods the hen pheasant lays from eighteen to twenty eggs in a season; but in a domestic state she seldom lays more than ten. Its flesh is considered as the greatest dainty.



THE RED-LEGGED PARTRIDGE.

Of the Partridge there are many species, but they may all be arranged under two divisions, the grey and the red The red partridge is the largest of the two, and often perches upon trees, the grey, which is the common partridge in England, is most prolific, and always keeps on the ground The manners and habits of these birds in many respects resemble those of the domestic poultry, but their cunning and instincts are much superior Whenever a dog, or other animal approaches their nest, the female uses every means to draw him away. She keeps just before him, pretends to be incapable of flying, just hops up, and falls down but never goes so far off as to discourage her pursuer, till she has drawn him entirely away from her secret treasure, when she at once takes wing and leaves him to gaze after her in despair. There are generally from ten to fifteen in a convoy; and if unmolested they live about seventeen years.



THE QUAIL,

In its manners and habits, resembles the partridge, but is not above half the size of that bird. The feathers on the head are black; the body and wings have black lines on a hazel colour; the breast is of a pale dirty yellow, and the legs of a pale blue.

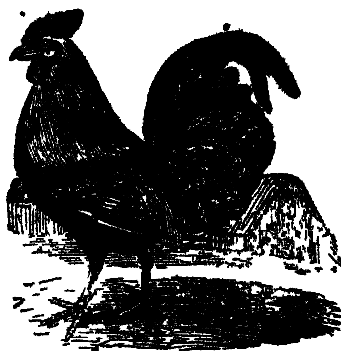
The Quail is a bird of passage, however ill adapted it may appear for extensive migration.

It builds its nest on the ground, and seldom lays more than six or seven eggs. There are several species of quail, but the common quail is only found in France and England.

THE COMMON COCK.

This bird is well known. His plumage is various and beautiful, his courage great, and proverbial. The hen lays a great number of eggs, and at certain times feels an irresistible propensity to sit upon them. When in the secluded state of incubation, she eats very little; and yet is so courageous and strong, that she will rise and fight any animal that dares to approach her nest. The flesh of this bird is delicate and wholesome, and universally relished as nourishing and agreeable food.

Among the varieties, or sub-races of the domestic Cock, are the following:—



The Crested Cock, which differs from the domestic, by having an ample tuft of feathers, instead of a fleshy comb, upon the head, but retains the wattles. Some, indeed, have these replaced by bunches of feathers; and in one—said to be of cross-breed with the cocks of Hamburgh—similar plumes, falling back horizontally, cover the ears, the occiput, and sometimes the throat. Sonnini tells us that these cocks, in consequence of the goodness of their flesh, are much esteemed, and are common in Upper Egypt. They abound also at the Cape of Good Hope.

The Turkish and Bantam Cocks do not differ very materially from our domestic race, and have also much analogy with the Javan species. They resemble each other in size: but their tail is not nearly so vertical as in our domestic breed; nor do they approach it in point of dimensions.

The Dwarf Cock, though much inferior in size to any other race, is very similar to the common cocks and hens. The legs are, in general, very short, and the size varies in different individuals; some being as large as a crow, while others do not exceed the pigeon

in bulk. The majority have feathered tőes, and some sub-races exhibit a double comb.

The Paduan Cock and the hen of Sansevarre are almost double the size of our domestic breed; having a strong hoarse voice, and weighing eight or ten pounds.

THE PIGEON.

THE domestic pigeon, which is itself derived from the stock dove, has given rise to many varieties, all distinguished by names expressive of their several properties, as tumblers, carriers, croppers, &c.: and bird-fanciers can multiply the families almost infinitely, by coupling a male and female of different sorts. The tame pigeon breeds every month; it lays two eggs, which most usually produce two young ones of different sexes. When the young are hatched they require no food for the first three days, only wanting to be kept warm. After this the parents feed them for eight days, by discharging into their mouths whatever they have themselves been able to treasure up in their crops. The males commonly supply the young females, and the females perform the same office for the young males. The fecundity of this bird is so prodigious, that from a single pair nearly fifteen thousand may be produced in the space of four years. Thus they will repay the cost of providing them with dwellings and food.

It is from a species of these that the Carrier-pigeon is produced. These are easily distinguished from all others by their eyes, which are compassed about with a broad circle of naked white skin, and by being of a dark blue or blackish colour. It is from their attachment to their native place, and particularly where they have brought up their young, that these birds are employed in several countries as the most expeditious

carriers. They are first brought from the place where they were bred, and whither it is intended to send them back with information. The letter is tied under the bird's wing, and it is then let loose to return The little bird no sooner finds itself at liberty, than its passion for its native spot directs all its motions. It is seen, upon these occasions, flying directly into the clouds, to an amazing height; and then, with the greatest certainty and exactness, directing itself, by some wondrous instinct, towards home, which lies, sometimes, many miles distant, bringing its message to those to whom it is directed. By what marks they discover the place, by what chart they are guided in the right way, is utterly unknown; certain it is, that in the space of an hour and a half they perform a journey of forty miles; which is a degree of despatch three times greater than the fleetest quadruped can accomplish. M. Antoine tells us that a gentleman of Cologne, having business to transact at Paris, laid a wager, of fifty Napoleons (40*l.*), that he would let his friends know of his arrival within three hours; and, as the distance is a hundred leagues, the bet was eagerly taken. He accordingly took with him two carrier pigeons, which had young at the time, and on arriving at Paris, at ten o'clock in the morning, he tied a letter to each of his pigeons, and despatched them at eleven precisely. One of them arrived at Cologne at five minutes past one o'clock, and the other nine minutes later; consequently they had performed nearly a hundred and fifty miles an hour, reckoning their flight to have been in a direct line. But their rapidity was probably much greater, if they took a circular flight. Audubon proves that the American passenger pigeon can fly at least a mile in a minute; and this is a heavier bird than the carrier. The flight of the carrier pigeon however is, if we may trust to the facts recorded, very various. Lithgow, the traveller, tells us that one of them will carry a letter from Baby-

lon to Aleppo (which is thirty days' journey) in forty-eight hours. In order to measure the speed of the bird, a gentleman, some years ago, sent one from London, by the coach, to a friend at Bury St. Edmund's, and along with it a note desiring that the pigeon, two days after its arrival there, might be thrown up precisely when the town clock struck nine in the morning. This was accordingly done, and the pigeon arrived in London, and flew into the Bull Inn, Bishopsgate-street, at half-past eleven, having flown seventy-two miles in two hours and a half; not being half the speed just recorded of the Cologne pigeons.



THE RING-DOVE, OR WOOD-PIGEON.

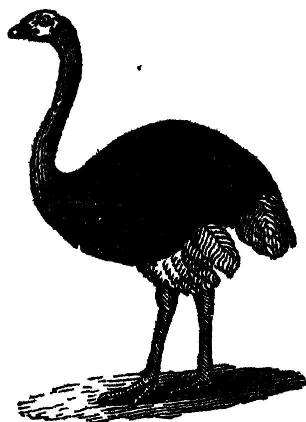
This is the largest Pigeon found in England, and may at once be distinguished from all others by its size; it weighs about twenty ounces; it is eighteen inches long, and measures thirty round the body. It is of a pale chocolate, or cream-colour, with a black ring, having white edges, round the neck.

The breed of the Ring-dove is not confined to any particular part of Britain. Its habits are like those of other birds of the tribe: but it is so strongly attached to its native freedom, that all attempts to domesticate

it, with a few exceptions, have hither turned out to be ineffectual.

The ring-dove builds its nest chiefly in the pine or holly, with dried sticks, thrown rudely together; and the eggs, which may sometimes be seen through the bottom of the nest, are larger than those of the domestic pigeon. Attempts have been made to domesticate them by hatching their eggs under the common pigeon, but as soon as they were able to fly, they made their escape.

A gentleman once bred up a curious assemblage of birds, which lived together in perfect harmony, it consisted of a common pigeon, a ring-dove, a white owl, and sparrow-hawk, and the ring-dove was master of the whole.



THE OSTRICH.

The Ostrich is generally considered as the largest of birds, but its size deprives it of the power of flying. The medium weight of the ostrich may be estimated

at seventy-five or eighty pounds, which would require an immense power of wing to elevate into the atmosphere. The head and bill of this bird somewhat resemble those of the duck; and the neck may be compared to that of the swan, only that it is much longer; the legs and thighs resemble those of a hen, though the whole appearance, at a distance, bears a strong resemblance to a camel; it is usually seven feet high, from the top of the head to the ground, while from the back it is only four; so that the head and neck are above three feet long. From the top of the head to the rump, when the neck is stretched out, it is six feet long, and the tail is about a foot more. One of the wings, without the feathers, is a foot and a half, and being stretched out, with the feathers, is three feet.

The plumage is generally black and white, though some are said to be grey. The greatest feathers are at the extremities of the wings and tail; and the largest are commonly white. The next row is black and white; and of the small feathers on the back and belly, some are white and others black. There are no feathers on the sides, nor yet on the thighs, nor under the wings. The lower part of the neck, about half way, is covered with still smaller feathers than those on the back and belly, and are of different colours. The head and upper part of the neck are covered with hair.

Each wing is furnished with a kind of spurs, an inch long, hollow, and of a horny substance. There are two of these on each wing; the largest of which is at the extremity of the bone of the wing, the other, a foot lower. The thighs are very fleshy and large, and are covered with a white skin, inclining to redness, and wrinkled in the manner of a net, whose meshes will admit the point of a finger. The legs are covered before with large scales. The end of the foot is cloven, and has two very large toes, also covered

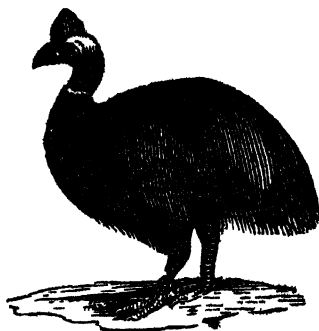
with scales; the largest, which is on the inside, is seven inches long, including the claw, which is near three-fourths of an inch long, and almost as broad. The other toe is about four inches long, and without a claw.

The ostrich is a native of Africa, and has never bred out of that country. It inhabits the most solitary deserts, where there are few vegetables to clothe the surface of the earth, and where the rain never comes to refresh it. In these horrid regions ostriches are seen in large flocks, which, to the distant spectator, appear like a regiment of cavalry. There is no desert, however barren it may be, but is capable of supplying these animals with food; they eat almost every thing; and these barren wastes are doubly grateful, as they afford both sustenance and security.

The ostrich is most voracious. It will devour leather, stones, iron, grass, hair, or anything that falls in its way; nor are its powers of digestion less, in such things as are digestible. Those things which the coats of the stomach cannot soften, pass through them whole.

The ostrich lays very large eggs, some of them being above five inches in diameter, and weighing upwards of fifteen pounds. The season for laying depends on the climate; in the northern parts of Africa about the beginning of July; in the south, about the latter end of December. They are very prolific, and lay generally from thirty to forty eggs in a season.

The strength and size of the ostrich has suggested to man the experiment of using them:—M. Adamson saw, at the factory at Podor, two ostriches, which were yet young, of which the stronger went at a pace, with two negroes on its back, which would have distanced the fleetest race-horse: but though this bird ran for a short time faster than the race-horse, there is no reason to believe it could hold out so long.



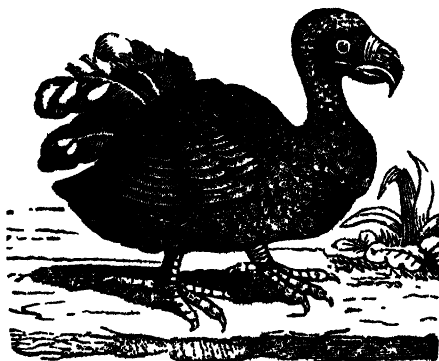
THE CASSOWARY

WAS first brought into Europe by the Dutch, from Java. It is five feet and a half long, from the point of the bill to the extremity of the claws. The legs are two feet and a half high, from the belly to the end of the claws. The head and neck together are a foot and a half; and the largest toe, including the claw, is five inches long. The claw alone of the least toe, is three inches and a half in length. The wing is so small, that it does not appear; it being hid under the feathers of the back. In other birds, a part of the feathers serve for flight, and are different from those that serve for merely covering; but, in the cassowary, all the feathers are of the same kind, and outwardly of the same colour.

This bird walks in an extraordinary manner. Instead of going directly forward, it seems to kick up behind with one leg, and then making a bound onward with the other, it goes with such prodigious velocity, that the swiftest racer would be left far behind.

The eggs of the cassowary are of a grey ash colour,

inclining to green. They are not so large nor so round as those of the ostrich. They are marked with a number of little tubercles of a deep green, and the shell is not very thick. The largest of these is found to be fifteen inches round one way, and about twelve the other.



THE DODO

Formerly inhabited the Isle of France; but it has been long extinct. Its appearance in the drawings that have been preserved of it, strikes the imagination as a thing the most unwieldy and inactive in all nature. It is barely supported on two short, thick legs, like pillars; while its head and neck rise from it in a manner truly grotesque.

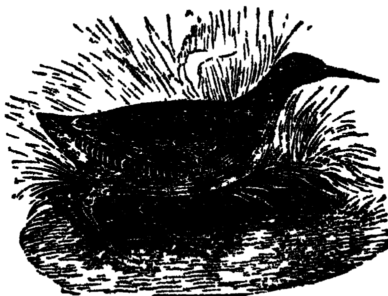


THE WHITE STORK

Is a tall stately bird, visiting the European continent from Prusia to the north of Spain, and being particularly common in Holland. It builds upon the housetop, or on the summits of lofty trees in the immediate vicinity of the most frequented places, stalks perfectly at its ease along the busy streets of any crowded town, and seeks for food on the banks of rivers or in fens close to its abode. It measures more than three feet from the extremity of the bill to the tip of the tail, and standing about the same height from the ground to the top of its head. When fully expanded, the width of the wings exceeds six feet, and in this state the eight or nine primary quill-feathers offer a very singular and indeed unique disposition, being separated from each other, so as to leave a vacant space between.

The Black Stork resembles the White in form and proportions, but is somewhat smaller.

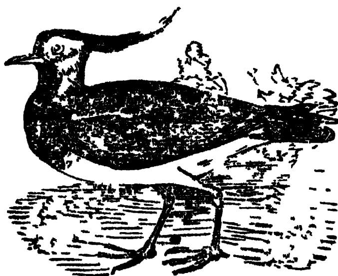
Storks are much prized in those countries which they frequent, for destroying frogs, lizards, serpents, and other obnoxious creatures



THE REDSHANK

Is of a dusky ash colour, spotted with black; the throat black and white, the black being drawn down, as it were, along the feathers. The breast is whiter and has not so many spots. It is for the most part found in wet, marshy lands, and in fenny parts of the country, where it builds its nest, and rears its young.

The Redshank derives its name from the colour of its legs, which are a bright scarlet.



THE LAPWING

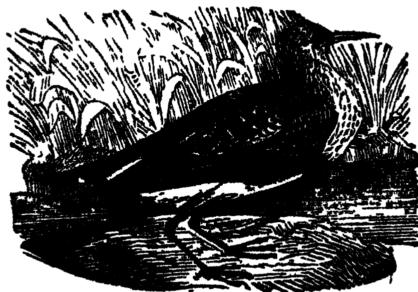
Is a well-known bird in all countries, and nearly everywhere to be met with. It is of the size of a

common pigeon. The female lays four or five eggs, of a yellow colour, varied all over with great black spots and strokes Lapwings build their nests on the ground in the middle of some field or heath, open and exposed to view, laying only some few straws under the eggs; as soon as the young are hatched, they forsake the nest, running away with the shell on their back, and following the mother, covered only with a kind of down like young ducks.

It is popularly supposed, that, to deceive those who seek their young, lapwings fly, with seeming fright, far away from the nest: a trick to which Chaucer alludes in his '*Ploughman's Tale*,' by

"lapwings that well conith he ;"

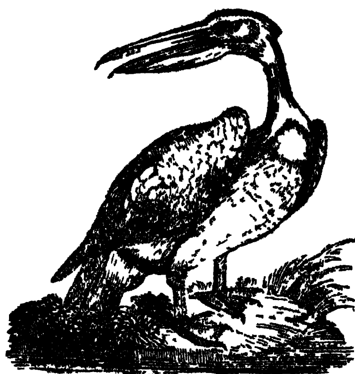
and of which Shakspeare has more than once availed himself for an illustration.



THE SANDPIPER.

The Green Sandpiper is so called from the whole upper part of its plumage being of a glossy bronze or olive brown, delicately marked on the edge of each feather with small white spots.

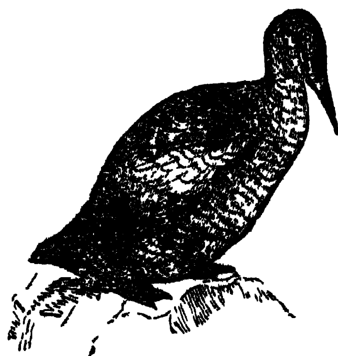
They reside, by choice, in the coldest climates; and, as other birds migrate here in our summer, their migrations hither are mostly in the winter. Even those that reside among us the whole season, retire in summer to the tops of our bleakest mountains, where they breed, and bring down their young, when the cold weather sets in.



THE PELICAN

Is one of the largest of water-birds, considerably exceeding the size of the swan, and frequently measuring from five to six feet between the bill and the tail, and from ten to twelve between the tips of the expanded wings. Its bill is nearly a foot and a half in length, and from an inch and a half to two inches broad; and its pouch is capable of containing, when stretched to its utmost extent, two or three gallons of water. Notwithstanding their great bulk and apparent clumsiness, from large extent of wing and extreme lightness of bone, these birds are enabled to gain a lofty pitch in the air, to hover at a moderate elevation, or

to skim rapidly along the surface of the water with as much facility as they dive into its depths in pursuit of their prey. They sometimes assemble in large numbers, and are said to show no little skill in manœuvring with the view of securing a plentiful quarry, forming themselves into a circular line, and gradually narrowing the extent of the space enclosed, until they have driven the fishes into so small a compass as to render them a certain prey; when, at a given signal, they all at once plunge into the water and seize upon their terrified victims, filling their pouches with the spoil, and flying to the land, there to devour it at their leisure.



THE GUILLEMOT

Is about the size of a duck; of sober plumage; principally brown and black, light beneath, and with a white bar on the wings. It inhabits the northern countries of Europe, frequents the rocky coasts of Britain, and feeds on fish, crabs, and similar animals.



THE SWAN.

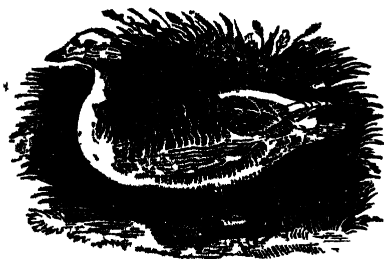
THERE are two distinct species of this majestic bird, the wild, and the tame The beak of the wild Swan is surrounded with a yellow skin, which runs up to the eye In the tame one this appendage is jet black, as are the feet in both species. The tame swan is the largest of all web-footed water-fowl, sometimes weighing about twenty pounds the whole body of the full grown swan is covered with a beautiful pure white plumage, but the young ones are grey, under the feathers is a thick but soft down, which is of very great use and often employed as an ornament. The elegance of form which this bird displays, when, with his arched neck and half-displayed wings, he sails along the crystal surface of a tranquil stream, which reflects, as he passes, the snowy beauty of his plumage is worthy of admiration

Although naturally one of the most gentle and inoffensive of birds, the large size and great muscular power of the swan render it a formidable enemy when driven to extremity, and compelled to act on the defensive.

There has been discovered in Australia, a race of black swans, to which the classical writers of antiquity

allude as a proverbial rarity, so improbable as to be deemed beyond the bounds of existence.

Swans are very long lived, some having attained the great age of one hundred years.

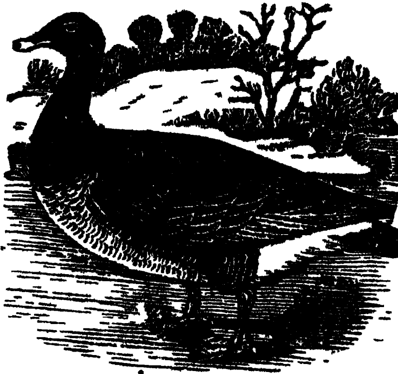


THE GOOSE,

In its domestic state, exhibits a variety of colours. The wild Goose always retains the same marks; the whole upper part is ash-coloured, the breast and belly are of a dirty white; the bill is narrow at the base, and at the tip it is black; the legs are of a saffron colour, and the claws black.

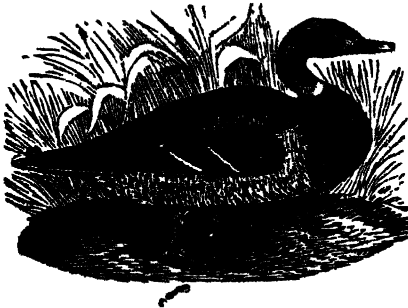
These marks are seldom found in the tame, whose bill is entirely red, and the legs brown. The wild goose is rather less than the tame; but both invariably retain a white ring round their tail, which shows that they are both descended from the same original.

The wild goose is supposed to breed in the northern parts of Europe; and, in the beginning of winter, to descend into more temperate regions. They are often seen flying at very great heights, in flocks from fifty to a hundred, and seldom resting by day. Their flight is very regularly arranged; they either go in a line abreast, or in two lines, joining in an angle in the middle.



THE BRENT GOOSE.

THIS Goose is about the size of a Muscovy duck. Its flesh has a very strong disagreeable flavour of sea-weed, which renders it unfit for food.



THE DUCK.

THE tame Duck is familiar to every one, and is the most easily reared of all our domestic fowls. The wild duck differs in many respects from the tame;

and in them there is a still greater variety than among the domestic kind. The most obvious distinction between wild and tame ducks is in the colour of their feet; those of the tame duck being yellow, and those of the wild duck black. The differences between wild ducks among each other, arises as well from their size as from the nature of the place they feed in. Sea-ducks, which feed in the salt-water, and dive much, have a broad bill bending upwards, a large hind toe, and a long blunt tail. Pond ducks, which feed in plashes, have a straight and narrow bill, a small hind toe, and a sharp pointed train.

Among the different species of the duck tribe are the following.



THE MALLARD

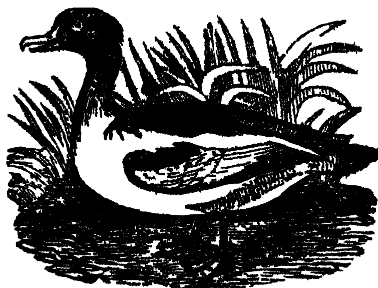
Is one of the largest of the Duck tribe—often measuring two feet in length, and three feet in the stretch of the wings. The head and neck are of a changeable green; a white ring or collar round the neck; while purple, brown, and green adorns the breast and shoulders. Its feet are pure yellow.

The numerous varieties of our domestic ducks are principally derived from this species.



THE SHOVELLER.

This handsome species of Duck is met with in many countries of the Northern Hemisphere,—both Eastern and Western. Its plumage is richly adorned with reddish brown, bronze green, velvet black, white, and bright blue.



THE GOLDEN EYE

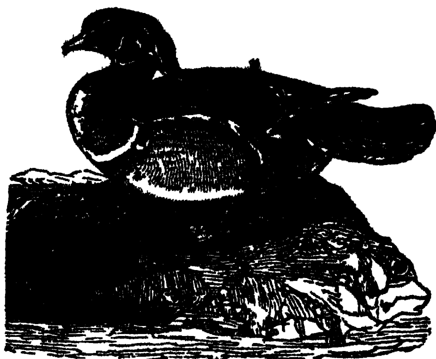
Derives its popular name from the bright yellow colour of the eye. It is not only a beautiful bird, but very swift of flight, and performs its evolutions on the water with grace and agility, and is an expert diver. The bill is very different from that of the Shoveller. Its food is not confined to snails, slugs,

&c., for it will devour reptiles, and even mice.. It breeds chiefly in Italy.



THE PIN TAIL DUCK

Is very well distinguished by the taper form of its tail. It is found both in Europe and America, and is a regular visitant of Britain in the winter months.



THE MANDARIN DUCK,

Also called the Chinese Duck. It is a very beautiful

bird, and is remarkable for the long silky feathers in its head.

It is capable of roosting on trees; and during a part of the year, exchanges its rich dress for more sober plumage.

It inhabits China and Japan.

THE STORMY PETREL.

The Stormy Petrel is about the size of a house swallow. The general colour of the plumage is black, except about the rump, which is white. They are very clamorous, and are called by sailors, who observe they never settle or sit upon the water but when stormy weather is to be expected, *Mother Carey's Chickens*. They are found in most parts of the world.

THE GULL.

The Common Gull is about seventeen inches long, and weighs one pound. The bill yellow, the back and wings a pale grey, and the head and rest of the body white.

The Black-eared Gull derives its name from having the upper part of the back and wings black, the rest of the body being a perfect white. It is the largest species with which we are acquainted. It weighs near five pounds, is twenty-nine inches in length, and in the extent of its wings five feet nine inches. It is common in England and in all the north of Europe. In America it is called the *old wife*.

FISHES.

THE ocean is the great receptacle of fishes. It has been thought, by some, that all fish are naturally of that element, and that they have entered into fresh water by some accidental migration.

The generality of fish offer to us the same external form, sharp at either end, and swelling in the middle; by which they are enabled to traverse the fluid they inhabit with celerity and ease. Any of the large fish overtake a ship in full sail with great ease, play round it without effort, and outstrip it at pleasure. Every part of the body seems exerted; the fins, the tail, and the motion of the whole back-bone assist progression; and it is to that flexibility of body which art cannot arrive, that fishes owe their great velocity.

The true fishes have cold blood, and have two gills for breathing. They have also parcels of tendinous fibres, covered and fastened together by a thin membrane, which are disposed something like a fan or wing, and situated near the gills, upon the back, under the belly, at the hinder part of the body; and at the tail; these are called fins, and are the chief instruments of their motion. The senses of fishes are very imperfect; that of sight, being the most acute. Their longevity is only exceeded by their astonishing fecundity.



THE WHALE.

THE Whale, by some naturalists, is not considered a fish, though it lives in the sea, and has fins and a tail instead of legs and feet. It differs materially from fishes, properly so called, in its warm blood; and in its lungs, which are exactly the same as those of quadrupeds. Hence, though the whale can remain a long time under water without breathing, it is compelled to come to the surface whenever it does breathe, and for this purpose it is furnished with two large nostrils, beautifully and curiously contrived to close, when the animal sinks under water.

The outward, or scarf skin of the whale, is no thicker than parchment; but this removed, the real skin appears about an inch thick, and covering the fat or blubber that lies beneath; this is from eight to twelve inches in thickness, and is thus admirably adapted for preventing the warm blood of the whale from being chilled by the cold of the water. Whales bring forth their young alive, and nourish them with milk, resembling that of land animals.

There are several different kinds of the whale distinguished from each other by some peculiarity. The Great Greenland Whale, without a back fin, and black on the back; the Iceland Whale, without a back fin, and whitish on the back; the New England Whale, with a hump on the back; the Whale with si humps on the back; the Fin Fish, with a fin on the back, near the tail; the Pike-headed Whale, and the

Round-lipped Whale. All these differ from each each in figure; they differ, also, somewhat in their manner of living; the fin fish, having a larger swallow than the rest, being more active, slender, and fierce, and living chiefly upon herrings.

The Great Greenland Whale, which is principally sought after in the whale fishery, is a large heavy animal., the head alone makes a third of its bulk. It is often found from sixty to seventy feet long. The fins on each side are from five to eight feet long, composed of bones and muscles, sufficiently strong to give the great mass of body which they move, speed and action. The tail is about twenty-four feet broad, and when the fish lies on one side, its blow is tremendous.

These creatures have no teeth in either jaw, but, instead, their mouths are furnished with a kind of fringe of numerous long horny laminæ, which are what we call whalebone, and which form a kind of strainer, to allow only the small fish to pass through, on which the whale feeds. The tongue is almost immoveably fixed to the lower jaw, seeming one great lump of fat; and, in fact, it fills several hogsheads with blubber. The eyes are not larger than those of an ox; and when the crystalline humour is dried, it does not appear larger than a pea. They are placed towards the back of the head, being the most convenient situation to enable them to see both before and behind. They are guarded by eyelids and eyelashes, as in quadrupeds; and they seem to be very sharp-sighted.

When the whale feeds, it swims with considerable velocity below the surface of the sea, with its jaws widely extended. A stream of water consequently enters its mouth, carrying along with it immense quantities of cuttle-fish, sea-blubber, shrimps, and other small marine animals. The water escapes at the sides; but the food is entangled, and, as it were, sifted by the fringe of whalebone within the mouth.

THE SPERMACETI WHALE.

THIS animal is not of such an enormous size as the Greenland Whale, but has teeth in the lower jaw, and no whalebone. The substance called spermaceti is extracted from its immensely large head. This head is nearly half the size of the entire animal; and the throat is so large that it could swallow a shark.

The quantity of oil produced from the Spermaceti Whale is not so considerable as that obtained from the Greenland Whale, but in quality it is far preferable, since it yields a bright flame, without at the same time exhaling any nauseous smell. The substance known by the name of ambergris is also derived from the body of this animal. It is generally found in the stomach, but sometimes in the intestines; and, in a commercial point of view, is a highly valuable production.



THE DOLPHIN.

THIS animal, like the whale, has warm blood, and it suckles its young, which are born alive. It has also lungs instead of gills; and it is obliged to raise its head above the surface of the water to breathe. It is from six to ten feet in length. The body is roundish, growing gradually less towards the tail; the nose is

long and pointed, the skin smooth, the back black or dusky blue, becoming white below. It has teeth both in the upper and lower jaw, and a fin on the back.

THE PORPOISE

Is nearly allied to the dolphin. It is from four to eight feet in length, and two and a half feet in width. The colour of the back is deep blue, inclining to black; the sides are grey, becoming white below. The tail is forked. The body is covered with a rough skin, but has no scales: there are three fins, one on the back, and one on each shoulder. Their motion is a kind of circular leap. They dive deep, but soon rise in order to breathe.

In former days, the flesh of the porpoise was highly esteemed as a delicacy for the table, and held a place at public feasts; indeed, it has but recently fallen into disrepute. It seems incomprensible, however, that the rank, oily, fishy flavour of this animal could enjoy any portion of real preference.

THE GRAMPUS

Is a species of porpoise, and a most inveterate enemy to the different species of whales. They are usually from twenty to twenty-five feet in length; the general form and colour resemble the common porpoise; but the lower jaw is considerably wider than the upper, and the body somewhat broader and deeper. The back fin sometimes measures six feet in length.



THE SHARK

Has no lungs, and its mode of breathing is like that of other fishes, except that its gills are fixed, and the water escapes by elongated apertures on each side.

The White Shark is found from twenty to thirty feet long. The head is large and flat; the snout long, and the eyes large. The mouth is enormously wide, and so is the throat, and capable of swallowing a man with great ease; indeed an entire human body has been found in the belly of a shark. Its teeth consist of six rows extremely hard, sharp-pointed, and of a wedge-like figure. It is asserted that there are seventy-two in each jaw; yet others think that their number is uncertain, and that in proportion as the animal grows older, these terrible instruments of destruction are found to increase. With these the jaws both above and below appear planted all over; but the animal has the power of erecting or depressing them at pleasure. When the shark is at rest, they lie flat in his mouth; but when he prepares to seize his prey, he erects all this dreadful apparatus by the help of a set of muscles that join them to the jaw; and the animal he seizes dies pierced with a hundred wounds.

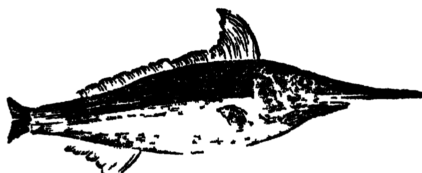
No fish can match the shark for swimming. Such amazing powers, with such great appetites for destruction, would quickly depopulate the ocean, but provi-

dentially the shark's upper jaw projects so far above the lower, that he is obliged to turn on one side, before he can seize his prey; notwithstanding, the depredations he commits are frequent and formidable. He is the dread of sailors in all hot climates; there he attends the ships to catch whatever may drop overboard. On one occasion, a sailor, who was bathing in the Mediterranean, perceived a monstrous fish making towards him, while he was about fifty yards from the ship, and surveying him on every side, as fish are seen to look round a bait. The poor man, struck with terror at its approach, called out to his companions on board to take him in. They accordingly threw him a rope with the utmost expedition, and were drawing him up the ship's side, when the shark darted after him from the deep, and in an instant snapped off one of his legs

A Guinea captain was driven by stress of weather into the harbour of Belfast, with a cargo of very sickly slaves, who took every opportunity, when brought upon deck, as is usual for the benefit of fresh air, to throw themselves overboard, from a notion the unhappy creatures had that they would be restored to their families and their country after death. The captain, perceiving among others a female slave attempting to drown herself, pitched upon her as a fitting example to the rest; supposing they did not know the terrors attending death, he ordered a rope to be tied under the arm-pits of the wretched creature, and let her down into the water. When the poor woman was thus plunged in, and about half way down, she was heard to give a dreadful shriek, which at first was ascribed to her fears of drowning; but soon after, the water appearing red all around her, she was drawn up, and it was found that a shark had bit her off from the middle.

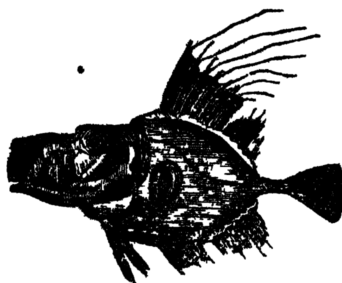
The usual method to take the shark is by baiting a piece of beef or pork, which is thrown into the sea by

a strong cord, strengthened near the hook with an iron chain. When the sailors have sufficiently diverted themselves by seeing him examine the bait, swim round it, and seeming for a while to neglect it, they make a pretence by drawing the rope, as if intending to take the bait away; it is then that the glutton's appetite excites him; he darts at the bait, and swallows it hook and all. When he finds the hook lodged in his maw, his utmost efforts are tried to get free: he tries with his teeth to cut the chain; he pulls with all his force to break the line; in this manner he continues his fruitless endeavours till he is quite spent; his head is then drawn above the water, his tail confined by a noose, and in this manner he is drawn on board and dispatched.



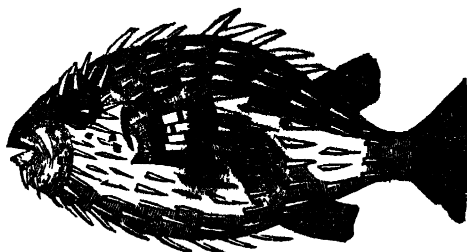
THE SWORD FISH.

This curious fish measures from fifteen to twenty feet in length, and sometimes weighs a hundred pounds. The body is long and rounded, largest near the head, and tapering towards the [illegible] Its skin is rough, the back black, and the belly of a silvery white. It has one fin, on the back, running almost its whole length; and has a pair of fins also at the gills. But the most remarkable part of this fish is the snout, which, in the upper jaw, runs out in the figure of a sword, sometimes to the length of three feet; but the under jaw is much shorter. The Sword Fish is found in most of the European seas, and its flesh is highly esteemed.



THE JOHN DOREE.

The body of this fish presents the shape of a rhomboid, but the sides are greatly compressed; the mouth is large, and the snout long composed of several cartilaginous plates, which wrap over one another, in order to enable the fish to catch its prey. Their colour is dark green with black spots having a golden gloss, whence it derives its name. They are caught on the coasts of England, and particularly off Torbay



THE SEA PORCUPINE.

This fish is of an oval shape, has a mouth like a frog, and is found from seven inches to two feet long

Like the porcupine, from whence it takes its name, it is covered over with long thorns or prickles, which point on every side; and when the animal is enraged, it can blow up its body as round as a bladder.

There are many species of this extraordinary creature; some defended with a bony helmet that covers the head.

THE TORPEDO, OR ELECTRIC RAY.

This is a curious fish which gives a smart shock to a person who handles it, similar to that produced by the electrical machine. The body of this fish is nearly circular, and thicker than any other of the Ray kind. Fishes are sometimes so large as to weigh between [illegible] and eighty pounds. The skin is smooth, of a dusky brown colour, and white underneath. The vertical fins form on each side, at the end of the body, nearly a quarter of a circle. The tail is short, and the two dorsal fins are near its origin. The mouth is small, and, as in the other species, there are on each side below it five breathing apertures.

THE SKATE

Is a species of [illegible] of large size, with a flat and somewhat diamond shaped body, and the mouth on the under side, the teeth sharp, and a single row of spines on tail. It is found in almost every part of the European ocean. No fish of its tribe is so excellent for the table as the Skate, particularly when it is young. The best season for skate is from January to March, and from July to September. So great is the size which these fish sometimes attain, that it has been asserted one of them was sufficient to serve one

N

hundred and twenty men for dinner. The fishermen sometimes dry the stomach as an article of food; and extract from their livers a white and valuable kind of oil.

THE STURGEON

Grows to the length of eighteen feet, and frequently weighs as much as five hundred pounds, but is seldom taken in our rivers at that bulk. The nose is very long, slender and ends in a point; on the lower part of it are four beards. The mouth which is situated far beneath, is small, and unsupported by any jaw bones; neither is it furnished with teeth. The eyes are extremely small, and the nostrils placed near them. The whole underside of the fish, from the end of the nose to the tail is entirely flat. On the back is a single fin, not very remote from the latter. It has also two pectoral fins, two ventrals, and one anal fin. In its general form it resembles a fresh water pike.



THE COMMON COD FISH

Inhabits only the northern parts of the world, and is much esteemed for the goodness of its flesh, either fresh or salted. The body measures sometimes above three, and even four feet in length, with a proportionable thickness. The back is of a brown olive colour,

with white spots on the sides, and the lower part of the body is entirely white. The eyes are large and staring. The head is broad and fleshy, and esteemed a delicious dish.

To the inhabitants of many countries the Cod fishery is a very essential source of wealth. It affords occupation to many thousand persons, and employment for several hundred sail of shipping. The fishery on the great bank near Newfoundland, is by far the most important.

The fecundity of all fishes is an object of real astonishment to every observer of nature. In the year 1790, a Cod-fish was sold in Workington market, Cumberland, weighing fifteen pounds, and measured two feet nine inches in length, and seven inches in breadth; the roe weighed two pounds ten ounces, one grain of which, contained three hundred and twenty eggs. The whole, therefore, might contain, by fair estimation, three million nine hundred and four thousand four hundred and forty eggs.

THE HADDOCK

Is a fish of the cod kind, which has three fins upon its back, a small fleshy beard on the under jaw, the upper jaw the longest, and the tail somewhat forked. There is a dark spot on each side of the body, a little below the gills. This fish seldom exceeds the weight of seven or eight pounds. They are best in season betwixt the months of July and January.

THE LING.

A species of cod, which has a small beard on the under jaw, the under jaw longer than the upper, and the tail fin rounded. They are caught in great num-

bers in the Northern Ocean, and about the northern coasts of Great Britain and Ireland, and when full grown are three or four feet in length. Ling are in season from February till about the end of May. Vast numbers of these fish are salted in the northern parts of England. A kind of isinglass is made from the air-bladder. The tongue of this fish is a dainty, and eaten either fresh, dried, or salted.

THE MACKEREL

Swim in large shoals in many parts of the ocean, more particularly on the coasts of England and France. They are usually from twelve to eighteen inches long, and seldom exceed two pounds in weight.

The Mackerel fishery is an object of great importance to the inhabitants of the countries on the shores of which these fish abound.



THE ROACH.

The back of the Roach is of a dusky colour, sometimes bluish The iris of the eyes, as well as the tail and fins are red , about the gills the fish is of a gold colour. The mouth is round, but void of teeth. It will breed in ponds as well as in rivers; but though the pond roach is largest, that of the rivers is the

best. The roach is principally found in shallow, gentle streams, which run over sand or gravel, with here and there deep holes, where they usually lie, and more especially near the mouth of a small brook or river, entering into a large one. They spawn about the middle of May, and may be caught six weeks after. Both this fish and the dace are coarse and insipid.

THE HERRING.

HERRINGS differ greatly in size, but the usual length is from nine to twelve inches. The colour of the back and sides are green, varied with blue, and the belly silvery. The scales are large, thin, and fall off with a slight touch. The eyes are large; the gill-covers loose and open wide, occasioning the immediate death of the fish when taken out of the water. The flesh of the herring is very delicate, if properly dressed soon after they are taken.

Herrings are met with in immense shoals on the coast of America. They are also extremely numerous in the seas of Kamschatka. Their great winter rendezvous is within the arctic circle, where they continue several months, in order to recruit themselves after spawning; the seas within that space swarm with insect food. Herrings begin to appear off the Shetland Isles in April and May; but the grand shoal make their appearance in June. Their number is so great, as to alter the appearance of the very ocean. They are divided into distinct columns of five or six miles in length, and three or four in breadth, and they drive the water before them with a kind of rippling; sometimes they sink for a few minutes, then rise again to the surface, and in fine weather reflect a variety of splendid colours. Towards the end of June herrings are in full roe, and they continue in

perfection till the beginning of winter, when they begin to deposit their spawn. The young herrings approach the shore in July and August, and are then from half an inch to two inches in length.

Immense quantities of these fish are annually taken; many of which are consumed whilst they are fresh, and the rest salted, pickled, or smoke-dried, and are a well-known eatable all over Europe. The herring-fishery is of great antiquity.



THE ANCHOVY,

A small fish of the herring tribe, which is known from all the others by its upper jaw being considerably longer than the under jaw. These fish seldom exceed the length of four or five inches. They are chiefly caught in the Mediterranean; they are also caught off the coast of France, and occasionally off our own shores. They are generally caught in nets during the night, being attracted together by fires lighted on the shores, or by torches fixed to the boats engaged in the fishery. As soon as they are caught the heads are cut off, and the entrails taken out; after this they are salted and pickled.

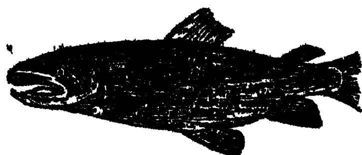
THE SPRAT

Is a very small fish of the herring tribe, distinguished by its belly being strongly serrated, the dorsal fin having seventeen rays, the anal fin nineteen, and the ventral fins each six. It seldom exceeds five inches in length, and is generally much smaller. These fish are caught on most of the British shores. They are caught in nets, and in some instances as many have been taken at a single haul as would have filled thirty barrels. Sprats are generally eaten fresh, though in some places they are cured in the same manner as herrings.

THE SALMON.

At an early season of the year, Salmon begin to leave their haunts in the ocean, and pass up the fresh water rivers, sometimes to vast distances, to deposit their spawn; and it is in these peregrinations that they are caught. Sometimes they are taken in nets, sometimes in traps or engines, and sometimes by spears or harpoons. They have been known to ascend rivers, to the distance of two hundred miles. When these fish, about the beginning of May, are five or six inches in length, they are called smelts; and when they have attained the weight of about six to nine pounds, they are called gilse.

Salmon are a favourite article of food. When eaten fresh, they are tender, flaky, and nutritious; but are thought to be difficult of digestion. The flesh of the salmon is of a red colour, and the beauty of its appearance is increased, by soaking the slices of it in fresh water before it is cooked. Immediately after the salmon have deposited their spawn, they become so flabby and bad as to be unfit for food.



THE SALMON TROUT

Is a species of salmon, chiefly characterized by the tail being hollowed, by having seven rays to the anal fin, black spots being encircled with ash-colour on the head, back, and sides; and the jaws of equal length. It inhabits the sea and rivers adjacent; and sometimes weighs ten or twelve pounds. The flesh of the Salmon trout is red and good, but not so highly flavoured as the salmon; and it varies much, according to the quality of the water in which they are taken. Salmon trout are caught chiefly with nets; and the fishing for them generally commences about the beginning of May, and continues till after Michaelmas.

THE TROUT.

This delicate fish is covered with small scales, usually streaked with red. There are several species which live in various places, and differ in colour and size. Some are found in deep and rapid rivers; others in lakes; some are of a blackish colour; others reddish, and rather of a gold colour, or variously marked with spots of a purple dye. The trout delights in cool and small streams, which descend from rocky hills: and seems particularly fond of swimming against the current. Trouts begin to be in season in March, but are fattest and have the most delicious flavour in July and August. The flesh, however, is drier and less tender than the salmon.



THE PIKE

HAS a roundish oblong body, with a flat head, and square back, the snout is very prominent, and the lower jaw somewhat longer than the upper. The mouth is very wide, and the teeth sharp, disposed not only in the front of the upper, but in both sides of the lower jaw, in the roof of the mouth, and on the tongue. The eyes are small and the tail forked. The Pike is good and nourishing food, and agrees with any age or constitution. It delights in quiet shady unfrequented waters, and lurks in the midst of weeds, flags, or bullrushes; yet he frequently makes excursions in search of prey. In cold weather he lies deep and near the bottom; but as the weather grows warm he frequents the shallows. In a very hot, clear day, he may be seen lying on the surface of the water, but, though very voracious, he is not then to be tempted with any bait In general he will take any sort of bait, except a fly; but the best are young roach, minnows, loaches, and bleak.

Innumerable instances are mentioned by authors showing the great voracity of the pike. Mr. Pennant informs us of a pike being choked by attempting to swallow one of its own species, that proved too large a morsel. It will devour the water-rat, and draw down young ducks as they are swimming on the water. At Lord Gower's canal at Trentham, a pike seized the head of a swan, as it was feeding under water, and gorged so much of it as to kill both itself and the stately bird.

The longevity of the pike is also very remarkable.

We are told of one that was ninety years of age; and Gesner informs us that in the year 1497, a pike was taken near Heilbrun in Swabia, with a brass ring affixed to it, on which the following words were engraved in Greek characters: "I am the fish which was first of all put into this lake, by the hands of the governor of the universe, Frederick the Second, the fifth of October, 1230." Supposing this to be a fact, the fish was at least two hundred and sixty-seven years of age.



THE FLYING FISH

HAS two pair of fins like wings, and these have a small fin of six rays; and the upper part of them is of an olive colour; but on the edge, they are beautifully painted with round blue spots. By the help of the wings they rise out of the water, and fly a considerable way to avoid the pursuit of the dolphins and other fishes that would devour them. They are said to be able to fly a distance of about two hundred paces, and to fall down when their fins grow dry. In their flight, they go sometimes on one side, sometimes on the other, and are frequently taken in the water by the gilt heads, or out of it by sea mews and other birds. They are never caught by fishing for them; but will often fall into the ships that sail between the tropics. Their flesh has an agreeable flavour, and is very wholesome.

THE HALIBUT

Is a flat fish of considerably lengthened shape, of an olive or blackish colour above, with smooth body, and the tail hollowed at the extremity. The eyes (as viewed from the head to the tail) are on the right side. They inhabit both the European and American seas, and frequently weigh from one hundred to four hundred pounds each.

As the Halibut is found only at the bottom of the water, the usual mode of catching it is with hooks and lines. Though, in general. a coarse food, the parts which are near the side fins are fat and delicious.

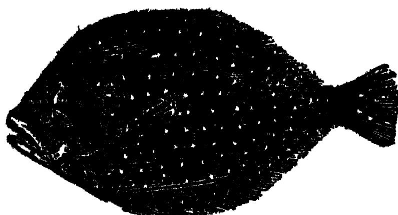
THE FLOUNDER

As rough, short spines at the base of the upper side of the fin, and a great number of rough points on almost the whole upper surface of the body. Its weight very seldom exceeds two pounds. There are few species of fish so common on the flat and muddy shores of this country as the Founder. Flounders are generally caught with nets, in the same way as the flat fish. Small flounders are frequently used by fishermen as bait for crabs.

THE SOLE

Is a flat fish, the body of which is oblong and rough, and the upper jaw longer than the lower. It is found off the sandy shores of nearly all parts of the world; and though in England it does not often exceed the weight of three pounds, in hot climates it frequently weighs seven or eight. The Sole is a fish in great

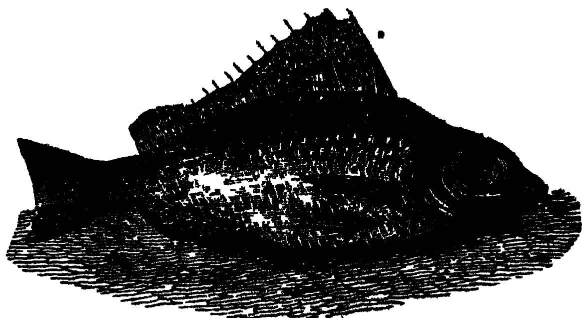
request for the table. They are always skinned before they are eaten; the skins are sometimes dried and used for the clarifying of coffee. This fish is in highest perfection about Midsummer.



THE TURBOT

Is a species of flat fish, distinguished by the eyes being on the left side, the body being broad, marbled with brown and yellow above, and rough with bony protuberances. The weight of these fish varies from four up to thirty pounds. They are chiefly caught in the Mediterranean and European seas.

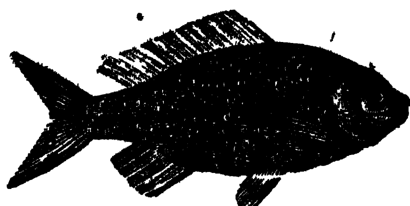
Notwithstanding the high repute of this favourite fish for the table of the wealthy and luxurious inhabitants of England, it has only of late years been relished in Scotland, and many persons there, still prefer the halibut to it. A general officer in the English army first taught the inhabitants of Fifeshire, that these fish were eatable; and astonished the fishermen by offering a shilling a-piece for the largest of them. The Turbot is caught by means of hooks and lines. Turbots are in season nearly the whole summer. When in perfection they are thick, and the under part of the body is of a yellowish white colour. These fish are generally considered better if kept in a cool place for a day or two before they are cooked.



THE PERCH

Is justly admired as a firm and delicate fish. It delights in deep holes and gentle streams, is extremely voracious, and an eager biter; so much so, that if an angler meets with a shoal of them, he is almost sure of taking every one. A full grown Perch is about twelve or fourteen inches long, though it is sometimes found to exceed sixteen inches; but this is an extraordinary size. The colours of the perch are beautiful: the back and part of the sides are of a dark green, marked with five broad black bars, pointing downwards; the belly is white tinged with red; the ventral fins of a bright scarlet; and the anal fins and tail of the same colour, but somewhat paler.

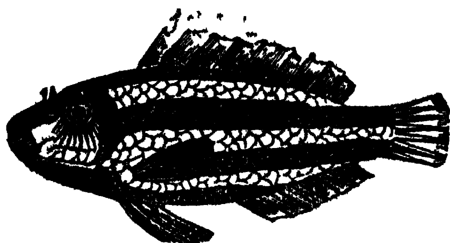
It is said that the pike hesitates to attack this fish, being fearful of the spiny fins, which the perch erects at the approach of its enemy. With respect to large perch this may be true enough; but it is well known that the small ones are the most alluring bait that can be offered to the pike: it is probable the fins of the young fish are too soft to do him injury.



THE CARP.

The colour of the Carp, when full grown, is yellowish, and the scales are large. The head is short, and the mouth of a middling size, with flat fleshy yellow lips. It has no teeth, but a triangular bone in the palate, and two other bones in the throat, which answer the same purpose. It has a single barb on each side of the mouth, and another above those which is shorter. The fins are large, the tail broad, a little forked, and of a reddish black colour, the lateral line is straight, and passes centrically along each side. The carp has perhaps the longest scales of any fish of its size; some of these are brown, and some yellow and white. The flesh of river carp is much better than that of the pond; and in general it is more or less wholesome, according to the nature of the water in which it is bred. The carp has a prodigious offspring; the roe was taken out of one and weighed with the fish itself, when the former was found greatly to preponderate.

In their general habits, the carp exhibit so great a degree of cunning, as to be sometimes called by the country people the River Fox. When attempted to be taken by a net, they will often leap over it; or immerse themselves so deep in the mud, as to suffer the net to pass over without touching them.



THE PARROT FISH.

THE head of this fish is somewhat similar to the carp; the body is broad, the tail narrow; the general colour is red, which is beautifully relieved by broad silvery stripes all along the body; the belly is white.

THE TENCH,

IN England, generally weighs about five or six pounds when full grown; but in other countries, has been found to weigh as much as twenty. The flesh of this fish is rather clammy, but it is in general esteem. The Tench delight much in standing pools, and in the still parts of rivers. Their time of spawning is the latter end of June, or the beginning of July; and they are in season from the beginning of September to the end of May.

THE GUDGEON

Is five or six inches long with a round body, small scales, a brown back and a whitish belly. It is sprinkled with about nine or ten pretty large black spots, which are placed in a right line, directly running from the head to the tail on each side. There are also others that are smaller, on the back, tail and

fins; and at each corner of the mouth there is a barb or thread. They are to be met with in most rivers; but grow to a much larger size in some than others. The flesh is in high esteem.



THE DACE

Resembles a chub, though less and rather whiter, the head also is less, and not so flat; and the tail more forked, the body too is more slender and compressed. The colour is generally white, and there are a sort of straight streaks between the scales. The iris of the eyes is not so yellow, nor are the tail and back fins so black as in the chub, though they are sometimes sprinkled with black spots. The teeth are not in the jaw but in the throat. It is a brisk and lively fish, and darts through the water with great swiftness. Its flesh is sweet and very delicate. Dace are common in almost every river of the kingdom. They are found on gravelly bottoms in the deepest and most shady places.

THE GOLD FISH.

This beautiful fish was first introduced into this country about the year 1691, but were not generally known till 1728, when many of them were brought

to England, where they are now quite naturalised and breed in the open air as freely as the common carp. In China they are said to grow to the size of a large herring; and they have been known in Europe to arrive at the length of eight inches. The nostrils are tubular, and form a sort of appendage above the nose; the dorsal fin and the tail varying greatly in shape. They are of various colours, but the general predominant colour is gold of an amazing splendour.

THE WHITE BAIT.

THE head back, and sides of this fish are silvery; the back tinged with green. Its usual length is about two inches. In the months of July and August great quantities of these fish are taken in the Thames, near Blackwall and Greenwich. They are very delicious when fried with flour; and the taverns contiguous to those places are much resorted to when the white bait are in season.

It is somewhat remarkable that these fish expire the instant they are taken out of the water.

THE MINNOW

Is about three inches in length. Its body is round and smooth, and the scales are so small as to be scarcely visible. The back is flat and of a deep olive colour; the belly and sides mottled with scarlet in some, in others with white, and in others again with a shining blue. The tail is forked, and marked near the base with dusky spots. These beautiful fish appear in shoals in many of our small gravelly streams.



THE COMMON EEL

Is distinguished by its lower jaw being somewhat longer than the upper, and the body being of a uniform colour. It is an inhabitant of rivers and ponds in almost every country in Europe, and sometimes grows to the weight of fifteen or twenty pounds. The flesh of the Eel affords a very rich and delicious food; and were it not for groundless prejudices, arising from its serpent-like shape, this fish would be in much greater request for the table than it now is. So abundant are eels in many of the rivers adjacent to the sea, that several tons weight have sometimes been caught in a day. Eels are considered in the highest perfection for the table from the commencement of spring till about the end of July; yet they continue good till the end of September. The modes of cooking them are numerous and well known.

THE LAMPREY.

The body of this fish is broader and flatter than that of an eel, with a longer and sharper snout. The colour is a mixture of blackish yellow and gold colour; the mouth opens exceedingly wide. At the end of the snout, there are two short hollow appendages; and above the eyes there is another pair, thicker but shorter than the former. The eyes are seated in the upper jaw, in the space between the end of the snout and the corners of the mouth. A fin rises centrically on the back, not far from the head, which is continued to the tail. Lampreys in general, have a round or oval mouth, with a hole, or pipe, on the top of the snout, as in those of the whale kind. There are seven holes on each side, which serve instead of gills; in the vicinity of which there are no fins.

Lampreys are properly sea-fish, but they quit the salt waters about the latter end of the winter, or the beginning of spring; and after a stay of a few months return again to the ocean, a very few excepted. Though the Severn is the most noted for them, they are found at certain seasons of the year, not only in several other English rivers, but the most considerable Scottish and Irish rivers.

THE LAMPREY EEL

Is sometimes three yards in length; the body about the gills is about fourteen inches in circumference; and the skin is of a blackish colour, marked with pale angular spots. The mouth is round, with which it adheres to any substance, as if sucking it, and cannot be parted from it without difficulty. It has a hole in the head like the lamprey, and there are also seven holes on each side of it, under which the gills are concealed.

THE TURTLE.

THE most remarkable of the Turtle kind are the Hawksbill and the Green Turtle.

The Hawksbill Turtle has a long and small mouth, somewhat resembling the bill of a hawk. Though the flesh of this Turtle is very indifferent, the plates or scales constituting that beautifully variegated and semi-transparent substance, called *tortoise-shell*, serve for the most valuable purposes. This, after having been softened by steeping in boiling water, is capable of being moulded into any form; and is in request by opticians and other artists, for many purposes. This animal, which is from two to three feet in length, is a native of the American and Asiatic seas; and is also sometimes found in the Mediterranean.

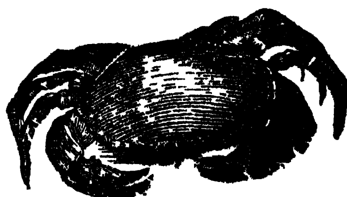
The Green Turtle is the most celebrated, and the most valuable, of all the animals of the tortoise kind. The delicacy of its flesh, and its nutritive qualities, are now well known among us. The colour of this animal is rather greener than that of others of this kind, whence it has the name of the Green Turtle. They commonly weigh from one hundred and fifty to two hundred pounds, though they are sometimes found to exceed five hundred.

The female digs hollow places in the sand of the sea shore, a little above high water mark; and in these deposit sometimes more than one hundred eggs, carefully concealing them from observation, by scratching over them a thin layer of sand. These eggs, which are a wholesome food, are nearly globular, each two or three inches in diameter, and covered with a strong membrane, somewhat like wet parchment. They consist of a yolk, which, by boiling, hardens like that of other eggs; and of a white, that is incapable of being hardened by heat.

THE LOBSTER

Has a cylindric body, the antennæ long, and a broad tail. Its large claws enable it to seize on its prey, to fix itself on the small prominences of rocks in the sea, to resist the motion of the waves, and to fight its enemies. Besides its claws, it has four small legs on each side, to assist it in its movements.

These animals are of a bluish black colour when alive, but in boiling, this changes to a dingy red. They sometimes grow to an immense size. Lobsters are found on nearly all the rocky shores of Europe. They are frequently caught at low water of the spring tides, under stones and in crevices of the rocks. But the usual method is by large wicker baskets, baited with garbage or fish.



THE COMMON CRAB.

Crabs are of various sizes, some weighing several pounds, and others only a few grains, all of different species. They move not forward, but on one side, as it suits them best. They have a small tail closed on the body; which is a considerable and essential difference between them and the lobsters, prawns, shrimps, and cray-fish.

The most remarkable circumstance in the history of

these animals, is the casting their shells once a year, and the renewal of their broken claws.

The Violet Land Crabs of the Caribbee Islands are singular in their habits; they descend by thousands from the mountains, their natural abode, down to the sea-shores, in order to deposit their spawn, though they return to the mountains after having done so.

THE SOLDIER CRAB

Is a curious animal. It is somewhat like a lobster divested of its shell: it is about four inches in length, and has no shell on the hinder part, but is covered down to the tail with a rough skin; it is also armed with strong hard nippers. This Crab has not been provided by Nature with a shell, and is obliged to seek for one which can fit him, and has been deserted by its legitimate tenant; but as this covering does not proceed from himself, and does not grow of course proportionally with him, he is forced out of it by his increasing size, and finds himself under the necesssity of looking out for a new one. Sometimes, when two competitors happen to eye the same premises, a great contest arises, and of course the strongest gets the manor. These crabs live on sea-weed, and the smaller insects which they find in the puddles which the tide leaves behind.



THE SHRIMP.

The Shrimp is a well-known small crustaceous animal. It has long slender feelers, between which are

two projecting laminæ. It has three pair of legs and five fins, but no claws. All the sandy shores of Great Britain breed this animal: it is frequently found in harbours, and even in the ditches and ponds of salt marshes. It flavour is very delicate.

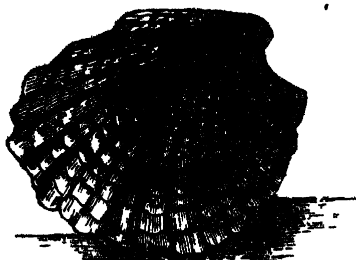
THE COMMON OYSTER.

Oysters abound on various parts of the British coast, and are consumed, under one form or another, in such numbers, as to have become a valuable article of commerce. Artificial beds, as Pliny informs us, were first invented by one Sergius Arata, and first established on the Lucrine Lake.

The two shells of the Oyster are generally unequal in size. The hinge is without teeth, but furnished with a somewhat oval cavity, and mostly with lateral traverse grooves. Oysters sometimes grow to a very great size; in the East Indies they are said sometimes to measure nearly two feet in diameter.

Oysters usually cast their spawn in May, which at first appear like drops of candle-grease, and stick to any hard substance they fall upon. These are covered with a shell in two or three days; and in three years they are large enough to be brought to market.

As they invariably remain in the places where they are laid, and as they grow without any other seeming food than the afflux of sea-water, it is the custom at Colchester, and other parts of the kingdom, when the tide settles in marshes on land, to pick up great quantities of small oysters along the shore, which, when first gathered, seldom exceed the size of a sixpence.—These are deposited in beds when the tide comes in, and in two or three years grow to a tolerable size.



THE PEARL OYSTER

HAS a large strong whitish shell, wrinkled and rough without, and within smooth and of a silver colour. From these the mother-of-pearl is taken, which is nothing more than the internal coats of the shell, resembling the pearl in colour and consistence.



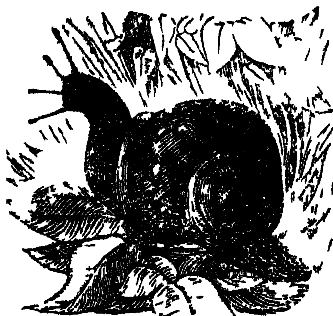
THE COMMON COCKLE.

FEW of our shell-fish are more common, in inlets and bays near the mouths of rivers, than these. When they open their shells, the entrance into them is protected by a soft membrane, which entirely closes up the front, except in two places, at each there is a small, yellow, and fringed tube. It is by means of these tubes the animals receive and eject the water which conveys to their body the nutriment necessary for their support.



THE CUTTLE FISH.

This is a very curious fish, with a somewhat oval body, which is broadest near the head, and growing smaller towards the extremity, where it is obtusely pointed. Its arms or legs (for they may be called either) are eight in number, most singularly attached to the head, and are all furnished with numerous small cup-shaped suckers. These fish are found in considerable numbers in the European seas. The body of the Cuttle Fish is furnished with a vessel that contains a considerable quantity of dark coloured or inky fluid, which the animal emits into the water to conceal its retreat, when alarmed by the approach of its enemies. It is generally supposed that the article called Indian ink is the black fluid in a hardened state, and perfumed with musk and other substances.



THE GARDEN SNAIL

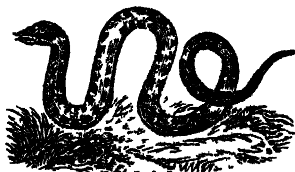
Is furnished with the organs of life in a manner almost as complete as the largest animal with a tongue, brain, salival ducts, glands, nerves, stomachs, and intestines; liver, heart and blood-vessels: besides this, it has a purple bag that furnishes a red matter to different parts of the body, together with strong muscles that hold it to the shell, and which are hardened like tendons, at their insertion.

A striking peculiarity of this animal is that its eyes are on the points of its largest horns. These eyes it can direct to different objects at pleasure, by a regular motion of the body; and sometimes it hides them by a swift contraction into the belly. When in motion, four horns appear, and under the smaller horns is the mouth; and though it may appear too soft a substance to be furnished with teeth, yet it has not less than eight of them, with which it devours leaves, and other substances, seemingly harder than itself, and with which it sometimes bites off pieces of its own shell.

Those that have seen the shells of sea-snails, need not be told that the animal which produces them is

larger than those of the same denomination upon land. There is a difference also in the position of the mouth in the garden and the water snail. In the former, the mouth is placed crossways, as in quadrupeds, and furnished with jaw-bones, lips, and teeth. In most of the sea-snails, the mouth is placed longitudinally in the head, and some obliquely, or on one side. Many sea-snails, too, entirely want horns, and none of them have above two.

REPTILES.



SERPENTS

Are characterized by an elongated body, clothed in scales, and destitute of limbs, but furnished with a tail. They move by lateral undulations of the body; and in this manner they glide with equal ease over the bare ground, or through entangled thickets, through water, and up the trunks of trees. As they possess the power of fasting a great length of time, and always swallow their prey whole, they possess the power of dilating their bodies, so as to contain what

they have gorged. They generally coil themselves up when in a state of repose, with the head in the centre; and when disturbed they first raise the head, before they uncoil the body.

Serpents differ very much in size. We are told of Serpents in the Isle of Java measuring fifty feet in length; and in the British Museum there is a skin of one thirty-two feet long. Though all serpents are amphibious, some are more fond of the water than others; and, though destitute of fins or gills, remain at the bottom, or swim along the surface with great ease. From their internal structure they are well adapted for either element, and their blood is as capable of circulating at the bottom of ponds as that of the frog or the tortoise. Some serpents are not voracious, but others are so to an extraordinary degree.

THE VIPER

Is the only one, either of the reptile or serpent tribes in Great Britain, from whose bite we have anything to fear. All the others are either entirely destitute of poison, or, if they possess any, it is not injurious to man.

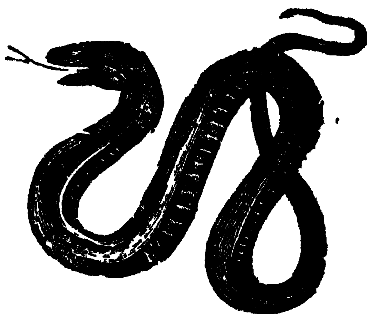
Vipers arrive at their full growth in about seven years, and produce at the end of their second or third. Their food consists of reptiles, worms, or young birds, which they swallow whole, though it sometimes happens that the morsel is thrice the thickness of their own body.

They are capable of supporting long abstinence; one of them having been kept above six months without food, during which time its vivacity was not lessened. When at liberty they remain torpid throughout the winter; yet when confined they have never been observed to take their annual repose.

Vipers are not often found in this country, but the

dry, stony, and chalky countries abound with them This animal seldom grows to a greater length than two feet, though sometimes they are found above three. The ground colour of their bodies is a dirty yellow; that of the female is deeper. The back is marked the whole length, with a series of square black spots, touching each other at the points; the sides with triangular ones, the belly entirely black. It is chiefly distinguished from the common black snake by the colour, but particularly by the tail, which, in the viper, though it ends in a point, does not run tapering to so great a length as in the other.

The viper differs from most other serpents, in bringing forth its young alive.



THE RATTLE-SNAKE

Is found in America, but in no part of the Old World. Some of them are as thick as a man's leg, and six feet in length; but there are many not larger than a common snake, and these latter are the most frequent. They receive their name from the rattle at the end of their tail, which consists of several shells,

of a thin and horny substance, which generally warns the passenger of its approach.

They are of an orange, tawny, and blackish colour on the back, and of an ash-colour on the belly, inclining to that of lead. The male may be readily distinguished by a black velvet spot on the head; and the head is smaller and longer made than that of the female.

Rattle-snakes produce their offspring, generally about twelve in number, in the month of June; and by September, these acquire the length of twelve inches. They preserve their young from danger by swallowing them. The young snakes, of one or two years old have no rattles; but those that are older, have several. Many have been killed that have had rattles of eleven to thirteen joints each. They shake and make a noise with these rattles with prodigious quickness when disturbed, and their bite is very dangerous. but not always of the same force; it being more or less mortal, in proportion to the vigour of the animal: for this reason, it is always most fatal in March and April.



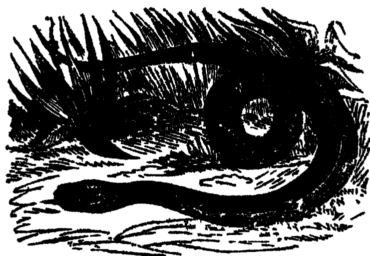
THE GREAT BOA.

The ground colour of the Great Boa is yellow and grey, on which is distributed along the back a chain

of large reddish brown, and sometimes red variegation, with other small and more irregular marks and spots.

This immense animal, the largest of all the serpent tribe, is frequently from thirty to forty feet in length, and of a proportionate thickness. In the Island of Java, we have been assured one of the monsters has been known to kill and devour a buffalo. We have an account in one of the German papers, written by a person who was a spectator, of a combat between an enormous serpent and a buffalo. The serpent had for some time been waiting near the brink of a pool in expectation of its prey, when a buffalo was the first animal that appeared. Having darted upon the affrighted beast, it instantly began to wrap him round with its voluminous twistings; and at every twist the bones of the buffalo were heard to crack, almost as loud as the report of a gun. It was in vain that the animal struggled and bellowed: its terrible enemy entwined it so closely that at length all its bones were crushed to pieces, and the whole body reduced to one uniform mass, the serpent then untwined its folds to swallow its prey at leisure. To prepare for this, and also to make it slip down the throat the more easily, it was seen to lick the body all over, and thus cover it with a mucilaginous substance. It then began to swallow it at the end that afforded the least resistence, and in the act, the throat suffered so great a dilatation, that it took in at once a substance that was thrice its own thickness.

As the body of the Boa is long, slender, and capable of bending in every direction, the number of joints in the back bone are numerous. The ribs are furnished with muscles, four in number, which being inserted into the head, run along to the end of the tail, and give the animal great strength and agility to all its motions.



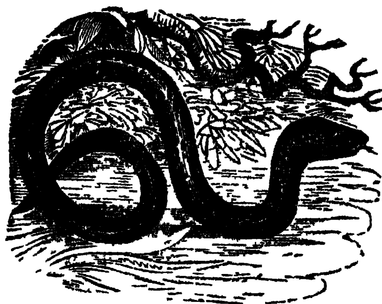
THE COBRA DI CAPELLO, OR HOODED SNAKE.

This most poisonous of serpents is so named, because it has an excrescence, like a hood, or cap on the top of the head. The skin is of a gold colour, and the serpent is generally about a yard in length, and about three quarters of an inch thick. The eyes are fierce and full of fire, and the bite so deadly, that it is said to be incurable, the patient dying in about an hour after the wound; the whole frame being dissolved into a putrid mass of corruption. The Hooded Snake is a native of India, where it is much dreaded for the malignity of its poison.

THE COMMON RINGED SNAKES

Are well known inhabitants of moist and warm woods in this country, on the dry banks of which they are often seen during the summer, either sleeping or basking themselves. They are harmless and inoffensive animals, being totally destitute of every means of injuring mankind. The common snake deposits her eggs, from fourteen to twenty in number, either in a hole with a warm aspect, or in dung-hills, where they

remain till the following spring before they are hatched. In winter these snakes conceal themselves, and become nearly torpid; re-appearing in spring, when they uniformly cast their skins. They prey on frogs, insects, worms, and mice; they are particularly fond of milk, and, it is said, will twine themselves round the legs of cows, in order to reach their udders, which they sometimes suck till the blood flows.



THE BLACK SNAKE

Is a North American serpent that grows to a great length. It is very smooth and slender, black on the upper parts, and of a pale blue beneath, except the throat, which is white. The activity of these animals is astonishing, since they will sometimes equal a horse in speed. Their eyes display a fiery brightness, by means of which they are able to fascinate birds, and the smaller quadrupeds. Their body is said to be so brittle that if, when pursued, they get their head into a hole, and a person seizes hold of their tail, it will often twist itself to pieces.

The Black Snake is sometimes bold enough to attack a man, but may be driven off by a smart stroke from a stick, or whatever other weapon he may chance to have in his hand.



THE LIZARD.

THIS is a British species, and it is one of the very few reptiles found in Ireland. It comes out of its hiding-place during the day to bask in the sun, and when it sees an insect, it darts like lightning upon it, seizing it with its sharp little teeth, and soon swallowing it. The young are produced in eggs, which are generally hatched the moment they are laid, but sometimes they remain a short time before the young come forth, the skin of the egg being so thin that the young Lizard, can be seen.



THE GREEN LIZARD.

THE colours of this Lizard are more brilliant and beautiful than those of any other European species: they exhibit a rich and varied mixture of darker and lighter green, interspersed with specks and marks

of yellow, brown, blackish, and sometimes even red. The head is covered with large angular scales; and the rest of the upper parts with very small ones. The tail is generally much longer than the body. Beneath the throat there is a kind of collar, formed by scales of a much darker colour than the rest of the animal.

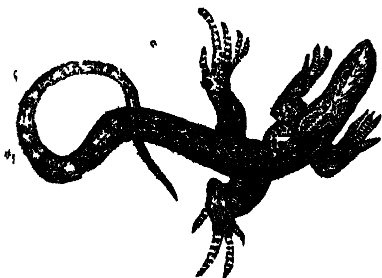


THE IGUANA

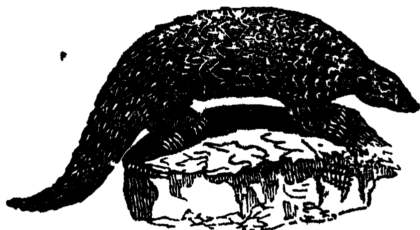
This animal is [illegible] long, the skin is covered with small scales, and the back is covered with a row of prickles that stand up like the teeth of a saw; the eyes seem to be half opened, except when the animal is angry, and then they appear large and sparkling; both the jaws are full of very sharp teeth, and the bite, though [illegible] venomous, [illegible] dangerous, for the animal never [illegible] loose till it is killed. The male Iguana is ash-coloured; the female, green.

THE MONITOR LIZARD

Is one of the most beautiful of the whole tribe, and is sometimes found measuring not less than four or five feet from the nose to the tip of the tail. Its shape is slender and elegant, the head being small, the snout gradually tapering, the limbs moderately slender, the



tail latterally compressed and insensibly decreasing towards the tip This animal is a native of South America, where it frequents woody and watery places. It has gained the title of Monitor from its warning mankind of the approach of the alligator by a loud and shrill whistle.



THE MANIS.

THE back, sides, and upper part of the tail of this animal, are covered with large strong scales. The mouth is small, and the tongue long. They have no teeth. They are commonly known by the name of Scaly Lizards.



THE CROCODILE

Is the largest and most formidable of reptiles; frequently exceeding twenty feet in length and five in circumference. The fore legs have the same parts and conformation as the arms of a man, but are somewhat shorter than those behind, the head is long, and the eyes small. The general colour is of a dark brown on the upper part, and a citron below, with large spots of both colours on the sides. The skin is defended by a suit of armour, which a musket ball cannot penetrate. The female deposits her eggs in the sand, and leaves them to be hatched by the heat of the sun.

The Crocodile has no lips, so that when either walking or swimming with the utmost tranquillity, its aspect seems animated by rage. Another circumstance that contributes to increase its terrific appearance is the fiery glare of its eyes; and these being situated near each other, have almost a malignant aspect.

The armour with which the crocodile is covered may be accounted among the most elaborate pieces of Nature's mechanism. On the lower parts it is much thinner and more pliable than on the upper. The

whole animal appears as if clothed with the most regular and curious carved work. The mouth is of an immense width, and furnished with numerous sharp pointed teeth, thirty or more on each side of the jaws; and these are so disposed as, when the mouth is closed, to fit alternately above and below.

In spite of his size, and his apparent unwieldiness, he moves about in the water with considerable agility, oftentimes emitting a kind of half suppressed murmuring noise. Although the great length of his body prevents him from turning round, he swims forward with astonishing velocity when about to seize his prey. On land its motions are much more embarrassed, and he is consequently there a less dangerous enemy.



THE ALLIGATOR, OR CAYMAN.

The habits of the Alligator are the same with those of the crocodile. The principle distinction is, that the former has its head and part of the neck more smooth than the latter.

The voice of the Alligator is loud and harsh. They have an unpleasant and powerful musky scent. M. Pagés says, that near one of the rivers in America, where they were numerous, their effluvia was so strong as to impregnate his provisions, and even to give them the nauseous taste of rotten musk.



THE CHAMELEON.

Like the Crocodile this creature proceeds from an egg; it also nearly resembles that formidable animal in form, but it differs widely in its size and appetite, being not above eleven inches long, and choosing to sit upon trees through fear of serpents, from which it is unable to escape on the ground.

The head of a large chameleon is almost two inches long; and like that of a fish, is fixed immoveably to the shoulders; the thickness of the body varies according as it is more or less inflated, for it can blow itself up, and contract itself at pleasure. This swelling and contraction are not only of the back and the belly, but of the legs and tail also.

But when the chameleon is removed into the sun, then comes the wonderful part of its history. At first, it appears to suffer no change of colour, its greyish spots still continuing the same; but the whole surface soon seems to imbibe the rays of light; and the colouring of the body changes into a variety of hues. Wherever the light comes upon the body, it is of a tawny brown; but that part of the skin on which the sun does not shine, changes into several brighter colours, pale yellow, or vivid crimson.

Though the Chameleon is repulsive in its appearance, it is perfectly harmless. It feeds only on insects, for which the structure of its tongue is well adapted, being long and protrusive, and furnished with a dilated, glutinous, and somewhat tubular tip. The eyes of the Chameleon have a singular property of looking at the same instant in different directions; one of them may be seen to move when the other is at rest, or one will be directed forward, whilst the other is attending to some object behind; or in a similar manner upward and downward.

Africa is the native country of the Chameleons, of which there are fourteen species; two of them are found in different parts of Asia and Australia, and one in the south of Europe.



THE FROG

Is common everywhere in moist situations, or wherever it can command a sufficient quantity of insects and worms to feed upon. The form of the Frog is light, and even elegant, and well calculated for its peculiar motions in the water; for which purpose its hind feet are strongly webbed. During winter it lies in a state of torpidity, either in the mud at the bottom of stagnant waters, or in the hollows beneath their banks, till awakened from its slumber by the genial influence of spring.

The *edible frog* is not only common in England, but is found in ponds, ditches, and fens, in nearly all parts of the world. As an article of luxury for the

table, this species of frog is in great request in France, Germany, and other countries of the continent. They are generally caught in the autumn, by rakes, with long close-set teeth; by nets, and in various other ways. The parts that are eaten are generally the hind-quarters.



THE TOAD.

As the Toad bears a general resemblance of figure to the frog, so also it resembles that animal in its nature and appetites. It lives upon worms and insects, which it seizes by darting out its tongue. The toad, however, is easily distinguished from the frog, by its livid appearance, and its sluggish and disgusting movements. Its eyes have a beautiful reddish gold-coloured iris, which forms a striking contrast to the general colour of its body. If irritated, it will emit, from various parts of its skin, a kind of frothy fluid. It is persecuted wherever it appears, upon the weak supposition that, because it is ugly, it must, necessarily, be venomous, which, however, it certainly is not.

Of the toad we have a property recorded, more astonishing than what is mentioned of most other animals, that of continuing alive for centuries enclosed in solid substances. Although we should always be cautious in yielding our belief to the marvellous, yet we have too many respectable authorities for the fact, and too frequent instances of its recurrence, to allow us to doubt in this case.

INSECTS.



Of all animated beings, Insects are the most imperfectly formed.* From their minuteness, the dissecting knife can go but a short way in the investigation; but one thing argues an evident imperfection, which is, that many of them can live a long time, though deprived of those organs which are necessary to life in the higher ranks of Nature. Many of them are furnished with lungs and a heart like nobler animals, yet the caterpillar continues to live, though its heart and lungs are entirely eaten away.

In a cursory inspection of the insect tribe, the first that offer themselves are those which have not wings. Of these some never attain wings at any period of their existence; others are only candidates for a more happy situation, and do not arrive at perfection until they attain them. Many of these are excluded from the egg in the form they are destined to retain.

Others proceed from a caterpillar which often changes its skin and at last assumes a new covering, which is called a chrysalis; in this it continues hidden till it comes forth a perfect moth, or butterfly. These have all four wings. Another order proceeds from grubs or worms, going through similar changes as the former; some having two wings others four.



THE SPIDER.

Of all insects the Spider is the most subtle. Formed for a life of rapacity, and incapable of living upon any other than insect food, all its habits are calculated to deceive and surprise.

The spider has two divisions in its body. The fore part, containing the head and breast is separated from the hinder part or belly by a very slender thread, through which, however, there is a communication from one part to the other. The fore part is covered with a hard shell, as well as the legs which adhere to the breast; the hinder part is clothed with a purple skin, covered with hair: they have several eyes, all round the head, brilliant and acute. Like all other insects their eyes are immoveable and they want eye-lids; but this organ is fortified with a horny substance, which at once secures and assists their vision.

As it procures its subsistence by the most watchful attention, so a large number of eyes is necessary to give it the earliest information of the capture of its prey. They have two pincers on the fore-part of the

head, rough, with strong points, toothed like a saw, and terminating in claws like those of a cat. A little below the point of the claw there is a small hole through which the animal emits a poison, which, though harmless to us, is sufficiently capable of instantly destroying its prey.

For the purpose of making its web, nature has furnished this animal with a very large quantity of glutinous matter, and five dugs or teats for spinning it into thread. This substance is contained in a little bag, and at first sight it resembles soft glue, but when examined more closely, it will be found twisted into many coils of an agate colour, and upon breaking it, the contents may be easily drawn out into threads, from the tenacity of the substance, not from those threads being already formed.

Our native Spiders are quite harmless, though in Africa and America, where all the insect species acquire their greatest growth, the spider is a formidable creature, and its bite dangerous.



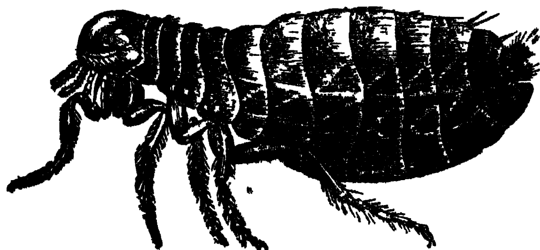
THE SCORPION.

The Scorpion somewhat resembles a lobster in shape, but is infinitely more hideous. There have been enumerated nine different kinds of this insect, chiefly distinguished by their colour; some being yellow, brown, and ash coloured; others that are the colour

of rusty iron, green, pale yellow, black, white, and grey.

There are few insects more formidable, or more truly mischievous than the scorpion. As it takes refuge in a small place, and is generally found sheltering in houses, so it most frequently stings those among whom it resides In some of the towns of Italy, and in the provinces of Languedoc, in France, it is one of the greatest pests that torment mankind, but its malignity is trifling compared to what the natives of Africa and the east are known to experience. In Batavia, where they grow twelve inches long, there is no removing any piece of furniture without the utmost danger of being stung by them.

Bosman assures us that along the Gold Coast they are often found nearly as large as a lobster, and that their sting is inevitably fatal. In Europe, the general size of this insect does not exceed two inches; and is very seldom fatal,



THE FLEA.

If the Flea be examined with a microscope it will be observed to have a small head, large eyes, and a roundish body. It has two feelers, or horns, which are short, and composed of four joints; between these lie the trunk, which it buries in the skin, and

through which it sucks the blood in large quantities. The body appears to be all over curiously adorned with a suit of polished sable armour, neatly joined, and beset with multitudes of small pins, almost like the quills of a porcupine. It has six legs, which it can fold up one within another; and when it leaps, they all spring out at once, whereby its all strength is exerted, and the body raised considerably.

This creature possesses, for its size, such astonishing strength, that it will drag after it a chain an hundred times heavier than itself; and, to compensate for this force, will eat ten times its own weight of provisions in a day.

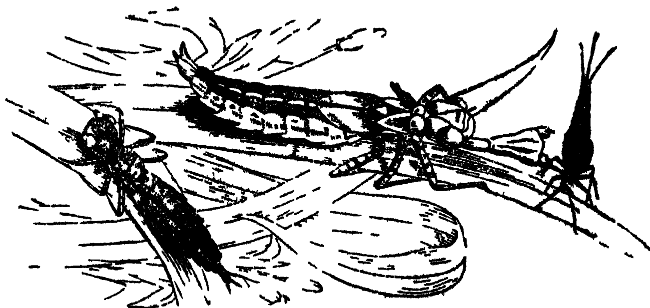


THE LOCUST

Is about three inches long, and has two horns or feelers, one inch in length. The head and horns are of a brownish colour; it is blue about the mouth, as also on the inside of the larger legs. The shield that covers the back is greenish, and the upper parts of the body brown, spotted with black, and the under side purple. The upper wings are brown, with dark dusky spots, and one larger at the tips; the under wings

are more transparent, and of a light brown tinctured with green, but there is a dark cloud of spots near the tips.

The Locust is exceedingly destructive. But it is not by what they devour that they do so much damage, as by what they destroy. Their very bite is thought to contaminate plants, and to prevent their future vegetation, and if so noxious while living, they are still more so when dead; for wherever they fall, they infect the air in such a manner, that the smell is unsupportable.



THE DRAGON FLIES,

Of which there are three or four different kinds, agree in the most striking parts of their history. The larger sort are generally found from two to three inches long; their tail is forked; their body divided into eleven rings, their eyes are large, bony, and transparent, divided by a number of intersections; and their wings, that always lie flat when they are at rest, are of a beautiful glossy transparency, sometimes glittering very like gold. Within the mouth are to be seen two teeth covered with a beautiful lip; with

these the creatures bite fiercely when they are taken, but their bite is perfectly harmless.

Beautiful as these insects are, they are produced from eggs, which are deposited in the water, where they remain for some time without life or motion. They are ejected by the female into the water in clusters, like a bunch of grapes, where they sink to the bottom by their natural weight, and continue in that state while the young ones find strength enough to break the shell, and to separate from each other. The form in which they show life is that of a worm with six legs: bearing a strong resemblance to the dragon-fly in the winged state, except that the wings are yet concealed within a sheath peculiar to the insect.

When these creatures prepare to change from their reptile to their flying state, they then move out of the water to a dry place. There they firmly fix their acute claws, and for a short time continue quite immoveable. It is then observed that the skin first opens on the head and back, and out of this opening they exhibit their real head and eyes, and at length their six legs; whilst, in the meantime, the hollow and the empty skin, or slough of their legs, remains firmly fixed in its place. After this the creature creeps forward by degrees; and by this means draws first its wings and then its body out of the skin; proceeding a little further, it sits at rest for some time, as if immoveable. During this time, the wings which were moist and folded, begin by degrees to expand themselves, and to make smooth and even all those plaits which were laid against each other, like a closed fan. The body is likewise insensibly extended, until all their limbs have obtained their proper size and dimensions.

They are the strongest of all winged insects; nor is there one, how large soever, that they will not attack and devour. the blue fly, the bee, the wasp, and the hornet, they make their constant prey; and

even the butterfly, that spreads so large a wing, is often caught and treated without the least mercy.



THE GRASSHOPPER

Is of the colour of green leaves, except a line of brown which streaks the back, and two pale lines under the belly. It has four wings; the hinder of which are much finer, and more expansive than the foremost, and are the principal instruments of its flight.

A short time after the Grasshopper assumes its wings it begins to fill the meadows with its note. The male only is vocal; and upon examining it near the base of its wings, there will be found a little hole covered with a fine transparent membrane which is the instrument of its note.

Towards the latter end of autumn the female prepares to deposit her burthen; and her body is then seen greatly distended with her eggs, which she carries to the number of a hundred and fifty. In order to make a proper lodging in the earth for them, nature has furnished her with an instrument something resembling a two-edged sword, which she can sheathe and unsheathe at pleasure; with this she

pierces the earth as deep as she is able; and into the hole, which her instrument has made, she deposits her eggs one after the other. Having thus provided for posterity, the animal itself does not long survive; but, as the winter approaches, dries up, seems to feel the effects of age, and dies from a total decay. Some, however, assert that it is killed by the cold, others that it is eaten by worms: but certain it is that neither the male nor the female survive the winter. In the meantime the eggs continue unaltered, either by the severity of the season, or the retardation of the spring.

About the beginning of May, generally, every egg produces its insect; which at first is of a whitish colour; at the end of two or three days it turns black; and soon after becomes of a reddish brown. It appears, from the beginning, like a grasshopper without wings, and hops among the grass with great agility.



THE CICADA

Of antiquity differs from our grasshopper in not having its jump: it either walking or flying. The note, too, of the cicada was louder and more musical. The manner in which the note was produced is also dissimilar. The cicada [illegible] a kind of buckler,

which it had under its belly; the grasshopper by a transparent membrane that covers a hole at the base of its wings.



THE HOUSE CRICKET

Very much resembles the grasshopper in shape, its manner of ruminating, its voice, its leaping, and method of propagation. It differs in its colour, which is uniformly of a russet-brown; in its food, which is more various; and it its place of residence, which is most usually in the warmest chink behind a country hearth.

As the Cricket lives chiefly in the dark, so its eyes seem formed for the gloominess of its abode; and those who would surprise it have only to light a candle unexpectedly, by which it is dazzled, and cannot find its way back to its retreat. It is a very voracious little animal, and will eat bread, flour, and meal; but is particularly fond of sugar. They never drink, and they keep for months together at the back of the chimney, where they could not possibly have any moisture. The warmth of their situation only serves to increase their mirth and loquacity.



THE MOLE CRICKET

Is about two inches in length, and three quarters of an inch in breadth. The colour is of a dusky brown; and at the extremity of the tail there are two hairy excrescences, resembling, in some sense, the tail of a mouse. The body consists of eight scaly joints, or separate folds; is brown on the upper part, and more deeply tinged below. The wings are long, narrow, and terminate in a sharp point, each having a blackish line running down it: however, when they are extended, they appear to be much broader than could at first sight be supposed. The shield of the breast is of a firm texture, of a blackish colour and hairy. The fore legs have four sharp teeth like a saw, which, as those of the mole, open a passage for it into the earth, where it burrows. In the months of June or July, the female digs a subterranean nest, about six inches deep, which, with the gallery that leads to it, resembles a bottle with a curved neck, and in this she deposits from two to [illegible] hundred eggs.

THE CATERPILLAR

Is easily distinguished from worms or maggots by the number of its feet, and by its producing butterflies or moths. When the sun calls up vegetation, and vivifies the various eggs of insects, the Caterpillars are the first that are seen, upon almost every vegetable and tree, eating its leaves, and preparing for a state of greater perfection. They have feet both before and behind; which not only enable them to move forward by a sort of steps made by their fore and hinder parts, but also to climb vegetables, and to stretch themselves out from the boughs and stalks to reach their food at a distance.

The insect into which it is converted is either a butterfly or a moth; and these are always distinguished from other flies, by having their wings covered over with a painted dust, which gives them such varied beauty.

When the caterpillar first bursts from the egg, it is small and feeble; its appetite is in proportion to its size, and it seems to make no great consumption; but as it increases in magnitude it improves in its appetite; so that in its adult caterpillar state it is the most voracious of all animals whatever. A single caterpillar will eat double its own weight of leaves in a day.

As there are several kinds of caterpillars, the number of their feet are various, some having only eight, while others have sixteen. Of these feet, the six foremost are covered with a kind of transparent gristle; and are, therefore, called the shelly legs. The hindmost feet, whatever be their number, are soft and flexible, and are called membranaceous.

Caterpillars are either smooth or hairy. The skin of the first is soft to the touch, or hard like

chagreen; the skin of the latter is hairy, and, as it were, thorny; and generally, if handled, stings like nettles.

Caterpillars in general, have six small black spots placed on the circumference of the fore ring, and a little to the side of the head; three of these are larger than the rest, and are convex and transparent. But the most curious part of the caterpillar's body, and which justly demands our attention, are those holes on the sides of the body through which it is said to breathe. They are eighteen in number, nine on each side, rather nearer the belly than the back. These oval openings may be considered as so many mouths through which the insect breathes; but with this difference, that as we have but one pair of lungs, the caterpillar has no fewer than eighteen. These lungs appear at first view to be hollow cartilaginous tubes, and of the colour of mother-of-pearl. These tubes are often seen to unite with each other; some are perceived to open into the intestines; and some go to different parts of the surface of the body. That these vessels serve to convey the air, appears evident. However, it ought to be observed, that air is not so necessary to these as to the nobler ranks of animals, since caterpillars have been known to live several days in an exhausted receiver; and though they appeared dead at the bottom, yet, when taken out, they recovered, and resumed their former vivacity.

The life of a caterpillar seems one continued succession of changes; and it is seen to throw off one skin only to assume another, which also is divested in its turn; and thus for eight or ten times successively.

The caterpillar, being stript of its skin for the last time, becomes an aurelia, in which the parts of the future butterfly are all visible, but in so soft a state, that the slightest touch can discompose them. The animal is now helpless and motionless.

Immediately after being stripped of its caterpillar

skin, it is of a green colour, especially in those parts which are distended by an extraordinary afflux of animal moisture; but in ten or twelve hours after being thus exposed, its parts harden, and the air forms its external covering into a firm crust.

From the beautiful and resplendent colour with which it is thus sometimes adorned, it is called a chrysalis, implying a creature made of gold.

The butterfly does not continue so long under the form of an aurelia as might be imagined. In general, those caterpillars that provide themselves with cones, continue within them but a few days after the cone is completely finished. Some, however, remain buried in this artificial covering for eight or nine months, without taking any sustenance; and though so voracious in the caterpillar state, when thus transformed they appear a miracle of abstinence.



THE MAGPIE, OR CURRANT MOTH.

A CELEBRATED entomologist sought in vain for a con-

siderable time to find in what place and manner this insect deposited its eggs. After many trials and enquiries, he placed one upon a leaf, which he had no sooner done than it began to cover itself with a woolly substance, seemingly as a preservation against wet or cold. The leaf being in a little time opened, he found a green seed, and soon discovered that the insect fed on gooseberry leaves, or curling vines; as also the leaves of white, black, and red currants. It began about the end of June to prepare for its state of transformation, in which it remained until the 13th of July, when a butterfly, spotted with black and white, sprung forth to enjoy its new state of perfect being. When touched, or suffered to fall, it remained so motionless as to appear dead.

The butterfly is easily distinguished from the Moth by its horns or feelers, which are clubbed or knobbed at the end; those of the moth tapering to a fine point.





THE SILK WORM

Is a large caterpillar, of a whitish colour, with twelve feet, and produces a butterfly of the moth kind. The cone, which it spins, is formed for covering it while it continues in the aurelia state; and several of these being wound off, and united together, form those strong and beautiful threads which are woven into silk. The feeding these worms; the winding, the twisting, and the weaving their silk, is one of the principal manufactures of Europe.

Tho proper food of the silkworm is the leaves of the mulberry tree. By this diet it is enabled to lay up within its body a kind of transparent glue, which has the property of hardening as soon as it comes into the air. When arrived at full maturity, it spins itself a web, out of this gluey matter, within which it encloses itself, and would, if not disturbed, in fifteen days, come out a perfect moth. This, however, is prevented when the animal is reared for the sake of its silk, as the moth would, in breaking its way through the web, destroy the silk. The balls are, therefore, exposed to such a heat as to kill the chrysalis; a few only being saved for the following year's breeding.

The art of manufacturing silk was known to the

ancients; but, in Europe, this commodity, long after its invention, was of very great value. We are informed that, in the third century, the wife of the Roman emperor Aurelian entreated him to give her a robe of purple silk, and that he refused this on account of its enormous price.

It is not certain at what precise period the silk manufacture was first introduced into England. But in the year 1242, we are told that part of the streets of London were covered or shaded with silk, for the reception of Richard, the brother of Henry III. on his return from the Holy Land



BEES.

These insects are very numerous, and differ considerably in their habits. Some are found in extensive communities, constructing, with the utmost art, cells for their young, and repositories for their food; while others both dwell and work in solitude. The whole tribe live on the nectar of flowers, and on ripe fruit. We shall, however, more particularly confine ourselves to the description of the Hive Bee.

Bees are divided into three classes; the working bee, the Drone, and the Queen. The queen, or parent bee, is the soul of the hive; to her all the rest are so attached, that they will follow her wherever she goes. If she dies all their labours are at an end, an universal

mourning ensues, and all her subjects reject their food and follow her. Should a new queen arise, before this catastrophe attends the hive, joy renovates their spirits, and their toils are renewed. But this attachment is only in proportion to the utility she affords to the commonwealth. She is so prolific as to lay fifteen or eighteen thousand eggs, which produce about eight hundred males or drones, four or five queen bees, and the rest working bees or neuters. Their cells differ in size; the largest are for the males, the royal cells for the queens, and the smallest for the neuters. The parent bee deposits in these cells such eggs as will produce the species for which they are respectively destined. In two or three days the eggs are hatched, when the neuters turn nurses to the rest, whom they feed most tenderly, with bee-bread and honey. After twenty-one days, the young bees are able to form cells, and with such indefatigable activity, that they will then do more, in one week's time, than during all the rest of the year

The bee collects the honey by means of its proboscis, or trunk, which is a most astonishing piece of mechanism, consisting of more than twenty parts. Entering the hive, the insect disgorges the honey into cells, for winter subsistence; or else presents it to the labouring bees. A bee can collect, in one day, more honey than a hundred chemists could extract in a hundred years.

It is difficult to perceive, even where glass hives are used, the manner in which bees operate when constructing their cells. They are so eager to afford mutual assistance, and for that purpose so many of them crowd together, and are perpetually succeeding each other, that their operating can seldom be distinctly observed. It has, however, been discovered, that their two jaws are the only instruments they employ in modelling and polishing the wax. With a little patience and attention, we perceive cells just

begun; we likewise remark the quickness with which a bee moves its teeth against a small portion of the cell. This portion, the animal, by repeated strokes on each side, smooths, renders compact, and reduces to a proper thinness. While some of the hive are lengthening their six-sided tubes, others are laying the foundations of new ones. In certain circumstances, when extremely hurried, they do not complete their new cells, but have them imperfect till they have begun a number sufficient for their present exigencies. When a bee puts its head a little way into a cell, we easily perceive it scraping the walls with the points of its teeth, in order to remove such useless and irregular fragments as may have been left in the work. Of these fragments, the bee forms a ball about the size of a pin's head, comes out of the cell, and carries this wax to another part of the work where it is wanted; it no sooner leaves the cell, than it is succeeded by another bee, which performs the same office, and in this manner the work is successively carried on till the cell is completely polished.



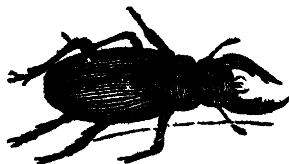
THE WASP

Is a very fierce insect; it is much larger than the bee, and furnished with a powerful sting. The common Wasp builds its nest in a hole in the ground. They do not construct cells with care and accuracy like the bee; and as they do not lay up a store of honey to support them during winter, they mostly die at that season; and what few live remain in a torpid state till spring.

THE ANT

Is a well known insect in our country, as well as in the rest of the world. The colour of the Ant is in general a dark red or brown, with a fine gloss on the abdomen. They are, like the bees, divided into three tribes—male, female, and neutral. The females and neuters are furnished with stings for their defence; the males are wholly destitute of them. The males and females are in proper season furnished with wings, but the neuters have none, and they are doomed always to labour and drudgery on the hill. This hill is constructed with considerable art and labour; it is composed of leaves, bits of wood, sand, earth, and gum from the trees, which are all united into a mass, perforated with galleries to give access to the numerous cells which it contains. From this hill there are several paths, worn by the constant passing and repassing of these creatures; and it is worthy the admiration of the naturalist to consider how busy the whole legion appears, in bringing bits of straw, dead bodies of other insects, or in carrying away their eggs, if any danger threatens their republic. Their sense of smell is very keen, and they discover at a great distance any food they may be in search of.





THE BEETLE,

Like all winged insects without exception, is bred from an egg which undergoes three different changes before the little animal appears in its perfect state. From its egg state it becomes a worm, then a chrysalis, in which the parts of the future fly are distinctly seen, though covered up as if in a case; and lastly, the animal leaves its prison, breaking forth as a winged insect in full maturity.

Insects of the Beetle tribe have one peculiarity, in which they differ from all others, they are furnished with cases to their wings, in which they can enclose them at pleasure. They afford us striking instances how admirably Nature adapts her creatures for the life they are to lead. Beetles often live under ground in holes, which they dig out by their own industry, these sheaths therefore prevent the various injuries their wings might receive from rubbing against the sides of their abode. The strength of the beetle also fits it for digging its subterraneous habitation; their muscles are formed very like those of quadrupeds, and are endued with such surprising force, that in proportion they are many times stronger than a man.

The largest of this kind is called the elephant, and is a native of South America. It measures sometimes not less than six inches in length, and is covered with a very hard shell, as thick and strong as that of a crab; it is furnished with an enormous beak. The wi[illegible]ells are inclined to blue, marked with round bl[illegible]ts, and the head and limbs are of a jet black.



THE GNAT AND TIPULA.

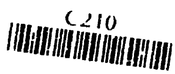
THESE are two insects which entirely resemble each other in their form, and yet widely differ in their habits, manners, and propagation. The differences in their form are so very minute, that it often requires the assistance of a microscope to distinguish the one from the other. The chief difference, is that the tipula wants a trunk, while the gnat has a large one. The tipula is a harmless, peaceful insect, that offers injury to nothing. the gnat is sanguinary and predaceous. The trunk of the gnat may justly be deemed one of Nature's masterpieces. It is so very small, that the extremity of it can scarcely be discerned through the best microscope that can be procured. That part which is at first obvious to the eye, is nothing but a long scaly sheath under the throat. At nearly the distance of two-thirds of it, there is an aperture, through which the insect darts out four stings, and afterwards retracts them; one of which, however sharp and active it may be, is no more than the case in which the other three lie concealed, and run in a long groove. The sides of these stings are sharpened like two-edged swords.



WORMS.

The Earth Worm has neither bones, eyes, ears, nor brains; it has a round, annulated body, with generally an elevated fleshy belt near the head. As it is designed for living under the earth, and leading a life of obscurity, so hath it been adapted to its situation. Its body is armed with small stiff sharp burrs or prickles, which it can erect or depress at pleasure. Under the skin there lies a slimy juice, to be ejected as occasion requires, at certain perforations, between the rings of the muscles, to lubricate its body, and facilitate its passage into the earth. Its intestines are always found filled with a very fine earth, which seems to be the only nourishment it is capable of receiving.

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